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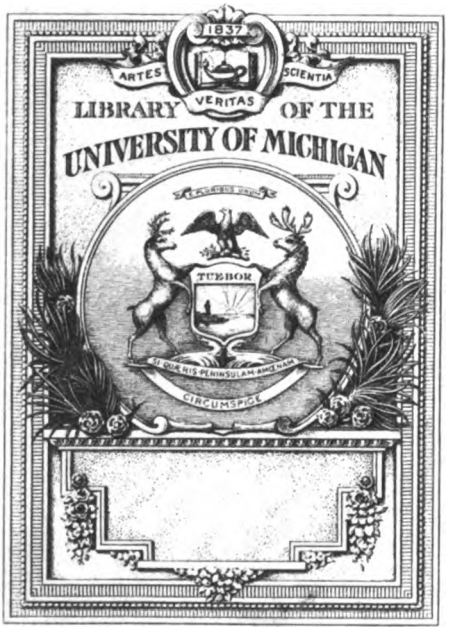

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Canada. Parliament.

SESSIONAL PAPERS.

VOLUME 3.

FIRST SESSION OF THE THIRD PARLIAMENT

OF THE

DOMINION OF CANADA.

SESSION 1874.

VOLUME VII.

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LIST OF SESSIONAL PAPERS.

VOL. VII.—SESSION 1874.

ARRANGED ALPHABETICALLY.

	No.
Accounts, Public	1
Agricultural Report	9
Allan Steamships	47
Amherst Harbor	62
Banks	13
Baptisms, &c.	11
Barrack Ground, Chatham	37
Blair, Benjamin	79
Bossé, Hon. Joseph Noel	56
British Columbia—Trans-con. Communication	51
" Indian Affairs	74
Capital Offences	26
Census	B
Chicoutimi and Saguenay	50
China—Trans-Pacific Steamship Company	66
City of Halifax	64
Collector of Customs, Montreal	46
Consolidated Fund Expenditure	23
Court of Appeal, P.Q.	57
Dominion Police	19
Dominion and Provincial Notes	71
Election Court	14
Election Districts	59
Escheats and Forfeitures	36
Estimates	1
Farrer, E.J.	77
Freeman's Patent Tent	61
Geological Survey of Canada	12
Governor General's Foot Guards	34
Harbor Commissioners, Montreal	52
Indian Branch, Department of the Interior	17
Ingonish Harbor	41
Inland Revenue	6
Insurance	24
Intercolonial Railway	32
Jenkins, Edward	28
Judges of the Superior Court, N.S., B.C., &c.	45
" " Quebec	72
Librarian's Report	10
Lunatic Asylum, Quebec	39
Machinery Imported	58
Mails, River du Loup, &c.	65
Manitoba Wood Limits	75
Marine and Fisheries	4
Militia Report	7
Mill and Factory Machinery	18
Miscellaneous Statistics	1
Monteagle	31
Montreal, Collector of Customs	46
Montreal Harbor Commissioners	52
Mouchette, Emile	43
Munro, Mr	27
Naturalization Treaties	54
New Brunswick Common School Law	40
North-West Difficulties	22
" Territories—Indian Treaties	70
Penitentiaries, Annual Report	42
Perry, Stanislaus Francis	69
Portage Island	38
Port Burwell Harbor	63
Port Stanley Harbor	49
Post Office Report	3
Prince Alfred Steamship	30
Prince Edward Island Winter Steamer	48
" " Lighthouses	67
Provincial Legislation	25
Public Accounts	1
Public Service Appointments, &c.	29
Public Work's Report	2
Railway Cars	60
Robertson, Mr.	27
Royal Commission	73
Secretary of State	8
Six Nation Indians	68
Spring Floods, St. Lawrence	76
St. John, N.B	21
St. Peter's Canal	33
Statutes of the Dominion	15
Storm Signal Stations	35
Superannuation	16
Trade and Navigation	5
Unforseen Expenses	20
Webb, John	78
Welland Canal	53
Windsor and Annapolis Railway	55
Yale and Kootenay District	44

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LIST OF SESSIONAL PAPERS.

ARRANGED NUMERICALLY AND IN VOLUMES.

CONTENTS OF VOLUME B.

B ..... CENSUS :—Report of the Census of the Provinces of Ontario, Quebec, New Brunswick and Nova Scotia, taken in the month of April, 1871; Vol. 2.

CONTENTS OF VOLUME No. 1.

No. 1.. PUBLIC ACCOUNTS OF THE DOMINION OF CANADA :—For the fiscal year ended 30th June, 1873.

ESTIMATES :—Sums required for the service of the Dominion of Canada, for the year ending 30th June, 1875.

——————SUPPLEMENTARY :— For the year ending 30th June, 1874.

——————————————For the year ending 30th June, 1875.

MISCELLANEOUS STATISTICS OF CANADA for the years 1869-70-71-72.

CONTENTS OF VOLUME No. 2.

No. 2.. PUBLIC WORKS :—General Report of the Minister of, for the year ended 30th June, 1873.

No. 3.. POSTMASTER GENERAL :—Report of, for the year ended 30th June, 1873.

CONTENTS OF VOLUME No. 3.

No. 4. MARINE AND FISHERIES :—Sixth Annual Report of the Department of, for the year ended 30th June, 1873.

———————————————Schedule of Papers for the Department, for the year ended 30th June, 1873.

——————————————Statement of Expenditure of Trinity House, Quebec.

——————————————do do do Montreal.

——————————————Statement of Expenditure and Receipts in connection with Harbor Police at Quebec and Montreal.

——————————————Statement of Expenditure and Collection in connection with Harbor Improvements.

——————————————Statement of Expenditure in connection with the construction of Lighthouses, Lightships, Steam Fog Whistles, &c.

——————————————Statement of Expenditure in connection with the maintenance of Lighthouses, Lightships, Steam Fog Whistles, &c.

——————————————Statement of Expenditure and Receipts in connection with sick, disabled, shipwrecked and distressed Mariners.

——————————————Statement of Receipts and Expenditure in connection with the "Decayed Pilot Fund," Quebec.

——————————————Statement of Receipts and Expenditure in connection with the "Decayed Pilot Fund," Montreal. [*Not printed.*]

CONTENTS OF VOLUME No. 4.

No. 5.. TRADE AND NAVIGATION, DOMINION OF CANADA :—Tables of, for the year ended 30th June, 1873.

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CONTENTS OF VOLUME No. 5.

No. 6.. INLAND REVENUES OF DOMINION OF CANADA :—Report, Returns and Statistics of, for the year ended 30th June, 1873.

————————————————First Report of the Commissioner of Inland Revenue on the Inspection of Weights, Measures and Gas, for January, 1874.

RECEIPTS OF REVENUE :—Return shewing Receipts and Revenue to the 21st day of April, 1874; and also a comparative statement of the said Receipts for the first 20 days of April in the years 1873 and 1874; together with the quantities of excisable goods in Bond on the 1st and 15th days of April in 1873 and 1874, and on the 1st day of July, 1873.

No. 7.. MILITIA :—Report of the State of the Militia of the Dominion of Canada, for the year 1873.

No. 8.. SECRETARY OF STATE FOR CANADA :—Report of, for the year ended 30th June, 1873, and from the 1st July, 1873, to 31st December, 1873.

CONTENTS OF VOLUME No. 6.

No. 9.. AGRICULTURE :—Report of the Minister of Agriculture of the Dominion of Canada, for the calendar year 1873.

————————Return to Address, Copies of all the Reports made by the Commissioners to the Commissioners to the Vienna Exhibition. [*Not printed.*]

———— ————Supplementary Return to Address, Copies of all the Reports made by the Commissioners to the Vienna Exhibition.

No. 10.. LIBRARY OF PARLIAMENT :—Report of the Librarian on the state of.

No. 11.. BAPTISMS, MARRIAGES AND BURIALS :—General Statement of, for certain Districts in the Province of Quebec. [*Not printed.*]

No. 12.. GEOLOGICAL SURVEY OF CANADA.—Report of Progress of, by Alfred R. C. Selwyn, F.G.S., Director, for 1872-73. [*Not re-printed in Sessional Papers.*]

No. 13.. BANKS :—List of the Shareholders of the several Banks of the Dominion of Canada in compliance with the Act 34 Vic., cap. 5, sec. 12. [*Not printed.*]

No. 14.. ELECTION COURT :—General Rules of the Election Court for the Montreal Division, under the provisions of the Act 36, Vic., cap. 28, sec. 32.
————————General Rules of the Election Court for the Quebec Division, under the provisions of the Act 36 Vic., cap. 28, sec. 32 :—and
————————General Rules of the Election Court for the Province of Nova Scotia, under the provisions of the Act 36 Vic., cap. 28, sec. 32.
————————General Rules of the Election Court for the Province of New Brunswick, under the provisions of the Act 36 Vic., cap. 28, sec. 32.
————————Correspondence respecting the establishment of an Election Court in the Province of Nova Scotia.
————————Writ of Prohibition, with Petition annexed, which have been served upon Mr. Justice Torrance, Mr. Justice Beaudry, &c., acting under the Controverted Elections Act, 1873, as Election Judges. [*Not printed.*]

No. 15.. STATUTES :—Official Return of the distribution of the Statutes of the Dominion of Canada, 36 Victoria, 1st Session of the 2nd Parliament, 1873, under the provisions of the Act 31 Vic., cap. 1, Sec. 14. [*Not printed.*]

No. 16.. SUPERANNUATION :—Statement of all allowances and gratuities granted under the Act 33 Vict., cap. 4, with a statement of the cases in which (since last Return) additions have been made to the actual number of years' service of persons employed in the Civil Service, who have been superannuated. [*Not printed.*]

No. 17.. INDIAN BRANCH, DEPARTMENT OF THE MINISTER OF THE INTERIOR :—Report of, for the year ended 30th June, 1873.

No. 18.. MILL AND FACTORY MACHINERY :—Return to Address of Mill and Factory Machinery imported into Canada with duty paid thereon since 1867.

No. 19.. DOMINION POLICE :—Return (under 31st Vict., cap. 73, sec. 6), of the average number of Dominion Police employed during each month of the fiscal year 1872-73; and of the cost of pay and the travelling expenses expended in respect thereof. [*Not printed.*]

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No. 20.. UNFORSEEN EXPENSES:—Return of sums paid and charged to Unforseen Expenses (under Orders in Council) from the 1st July, 1873 to date, under authority of the Act 36 Vict., cap, 26. [*Not printed.*]

No. 21.. ST. JOHN, N.B.:—Comparative Statement shewing the quantity and value of the principal articles of merchandize, imported and entered for consumption, with the duty collected thereon at the Port of Saint John, in March 1873 and March 1874. [*Not printed.*]

————————Return to Address, Comparative Statement of duties paid on imports at the Port of Saint John, N.B., for the first fifteen days of the month of April of the years 1873 and 1874. [*Not printed.*]

No. 22.. NORTH WEST DIFFICULTIES:—Return to Address, all despatches between the Government and the Lieutenant-Governor of Manitoba, and the Police Magistrate of that Province, on the subject of the murders alleged to have been committed by American citizens in the North West Territories, and on the alleged establishment of trading posts by them within those Territories.

————————Return and Supplementary Return to Address, for copies of Proclamation dated on the 6th December, 1869, having reference to the difficulties which existed in the North West in 1869 and 1870; and of all correspondence between the Dominion Government, the Government of Manitoba, and the Imperial Government; and other communications having reference to the Amnesty in the said Proclamation. [*Not printed.*]

No. 23.. CONSOLIDATED FUND, EXPENDITURE:—Comparative Statement of, for the nine months ended 31st March, 1873-74.

No. 24.. INSURANCE:—Statements made by Insurance Companies, in compliance with the Act 31 Vic., cap. 48, sec. 14.

————————Annual Report of the Beaver and Toronto Mutual Fire Insurance Company, for the year 1873; together with a list of Shareholders in Guarantee Stock of the said Company, on the 31st December, 1873. [*Not printed.*]

————————Statement of Receipts and Expenditure of the Mutual Life Association of Canada, for the year ended 31st December, 1873. [*Not printed.*]

No. 25... PROVINCIAL LEGISLATION:—Return to Address, Orders in Council, and Correspondence between the Imperial and Canadian Governments, and between the Government of Canada and any of the Provinces, since March, 1873; including any instruction to His Excellency the Governor General on the subject of Provincial Legislation.

No. 26.. CAPITAL OFFENCES:—Return to Address, Commitments for capital offences in the Dominion, since the 1st July, 1867; with the convictions or acquittals resulting therefrom, and punishments inflicted, or pardons or commutations of sentence.

No. 27... MUNRO, MR.:—Return to Address, Reports and other papers relating to the dismissal of Mr. Munro from the Office of Postmaster at Lanark; and of the dismissal of Mr. Robertson from the same office. [*Not printed.*]

No. 28.. JENKINS, EDWARD, ESQ:—Return to Address, Orders in Council, relating to the appointment of Edward Jenkins, Esq., as Emigration Agent in London, Agent General for Canada in the United Kingdom, with a copy of his Commission and instructions. [*Not printed.*]

No. 29... PUBLIC SERVICE APPOINTMENTS AND DISMISSALS:- Return to Address, Appointments to and dismissals from Office, in Prince Edward Island, and all petitions and papers connected therewith, since the first day of July last.

————————Return to Address, Statement shewing the number of Officers appointed, and of appointments in the Public Service between 1st January, and the 7th November, 1873; and the salary attached to the office; the date, and the name and residence of the person so appointed.

————————Return to Address, Appointments made since 1st November, last, to the inside service of the Post Office Department, with the names, dates of appointment, and salaries.

————————Return to Address, Return of all appointments made from the 1st August last until the 26th day of March instant; also all Orders in Council recommending such appointments; also all increases of salary made or recommended between the above dates; also of all dismissals from Office.

————————Return to Address, Return of all the Officers in the Customs Department of Nova Scotia since 1st July last, who have received an increase of salary under the provisions of Act 36 Vic,, cap. 31.

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PUBLIC SERVICE APPOINTMENTS AND DISMISSALS:—Return to Address, Orders in Council or Departmental Orders, giving an increase of salary to Employés in the Public Service, between the 1st January and the 7th November, 1873; showing the names of the persons and the date of such increase.

———————————Return to Address, Appointments made since the first January, 1874, to the Custom House, Montreal, with the names and previous occupation of the parties appointed; the salaries of each, with Reports or recommendations from the Collector respecting such appointments.

No. 30.. "PRINCE ALFRED" STEAMSHIP:—Return to Address, Memorial of the Chamber of Commerce of Victoria, B.C., respecting the cancelling of the Mail contract with the owners of the Steamship, Prince Alfred, and contracting with Messrs. Malcolm, Hudson & Co., for their Steamships to call twice a month at Esquimalt, when making the voyage from San Francisco to China and Japan, and *vice versâ*. [*Not printed.*]

No. 31.. MONTEAGLE:—Return to Address, Correspondence relative to the establishment of a Post Office in Monteagle Valley, under the name of "Greenview"; and the establishment of a Post Office in the Township of Dungannon, under the name of "Brunson," both in North Riding of the County of Hastings. [*Not printed.*]

No. 32.. INTERCOLONIAL RAILWAY:—Return to Address, Statement regarding the progress of the work on Section 13 of the Intercolonial Railway, shewing the amount of original contract, the bonus (if any) paid to the contractor, the amount (if any) overpaid, the amount required to complete the contract, and the present condition of the work in progress on said Section.

———————————Return shewing the amount expended upon the South-East Pier of the Intercolonial Railway Bridge over the Tantamar River, specifying whether or not tenders were advertised for the work. [*Not printed.*]

———————————Statement of the amount of unpaid claims on Sections 4 and 7 respectively, of the Intercolonial Railway reported on by Mr. C. Schreiber, C.E., also a Statement of the amounts in all, paid on account thereof by the Intercolonial Commissioners and by Mr Schreiber, respectively. [*Not printed.*]

———————————Return to Address, All Correspondence, Reports of Railway Commissioners, Orders of Council, Accounts and Papers of every description relating to the claims connected with contracts on the Intercolonial Railway from No. 1 to No. 7 inclusive, and all payments made thereon under the authority of a Resolution passed by this House during the Session of 1873;—as well as a statement of the extra work claimed by the Contractors on the said Sections. [*Not printed.*]

———————————Return to Address, All Papers and Correspondence in reference to the construction of Section No. 12 of the Intercolonial Railroad, and to the claims of contractors and others in connection with such construction. [*Not printed.*]

———————————Return to Address, Statement of the cost of the Bridges on the Intercolonial Railway, showing the comparative cost of spars of wood and iron; with all Correspondence and Reports of the Commissioners, Engineers, and others submitted to the Government, and all Orders in Council on the subject. [*Not printed.*]

———————————Return to Address, 1st. A List showing all the claims filed against the contractors for Sections 8, 13, 14, 17, 18 and 19 of the Intercolonial Railway; the name of each claimant, the amount claimed by him, and the name of the contractor against whom such claim is filed, and copies of affidavits complaining of frauds committed in the carrying out of the contracts for the aforesaid various sections. [*Not printed.*]

No. 33.. ST. PETER'S CANAL:—Return to Address, Reports, Plans and Specifications in connection with the contemplated extension of St. Peter's Canal. [*Not printed.*]

No. 34.. GOVERNOR GENERAL'S FOOT GUARDS:—Return to Address, Correspondence which led to the issuing of "Militia General Order," under date of the 8th June, 1872, granting to the Governor General's Foot Guards "the same precedence and status in the Active Militia of the Dominion, as is held by Her Majesty's Foot Guards in the Imperial Army."

35.. STORM SIGNAL STATIONS:—Return from the different Storm Signal Stations in the Province of Nova Scotia, showing how often the signal was received before the storm arrived, and how often after the storm had passed; also why the Storm-drum is put up, when the gale has gone by. [*Not printed.*]

No. 36. ESCHEATS AND FORFEITURES:—Return to Address, Copy of an Act passed by the Legislature of the Province of Ontario at its last Session, intituled: "An Act to amend the Law respecting Escheats and Forfeitures;" together with all Orders in Council, and all correspondence as to the said Act.

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No. 37.. BARRACK GROUND, CHATHAM :—Return to Address, Correspondence, &c., relating to the disposal or occupation of that Government property in the Town of Chatham, known as the Barrack Ground. [*Not printed.*]

No. 38.. PORTAGE ISLAND :—Return to Address, Correspondence between the Government of Canada and the Imperial Government, in relation to the transfer of Portage Island, at the Entrance of Miramichi Bay, to the Government of Canada. [*Not printed.*]

No. 39.. LUNATIC ASYLUM, QUEBEC :—Return to Address, Correspondence between the Government of Canada and the Government of Quebec, in relation to the transfer of certain properties, situated at Chambly, St. John, or elsewhere, for the establishment of the Lunatic Asylum for the Province of Quebec. [*Not printed.*]

No. 40.. NEW BRUNSWICK, COMMON SCHOOL LAW :—Return to Address, Correspondence relating to the sum voted in the first Session of 1873, to meet the costs of an Appeal to Her Majesty's Privy Council, with reference to the constitutionality of the Common School Law of New Brunswick, passed in 1871,—and a statement of all sums paid for the purpose. [*Not printed.*]

No. 41.. INGONISH HARBOR :—Return to Address, Showing the number of inhabitants, and the amount of the Imports of the Harbor of Ingonish South, Cape Breton, for the past year. [*Not printed.*]

——————Return to Address, Account of the Expenditure and Correspondence, and Reports from Engineers, relating to the expenditure for the improvement of the Harbor of Ingonish South, Cape Breton. [*Not printed.*]

No. 42.. PENITENTIARIES :—Sixth Annual Report of the Directors of Penitentiaries of the Dominion of Canada, for the year 1873.

No. 43.. MOUCHETTE, EMILE :—Return to Address, Letters or other papers in connection with the appointment and dismissal of Emile Mouchette to and from the office of Way Office Keeper at Acadiaville, West Arichat, in the County of Richmond, Nova Scotia, and correspondence relative to the appointment of his successor. [*Not printed.*]

No. 44.. YALE AND KOOTENAY DISTRICT :—Return to Address, Correspondence between the Dominion Government and the Returning Officer of the Yale and Koutenais District; also between the Local Government or any other parties and the Dominion Government with reference to the last Election in the Yale and Koutenais District, British Columbia.

No. 45.. JUDGES OF THE SUPERIOR COURTS OF N.S., N.B., AND B.C. :—Return to Address, Correspondence between the Government of Canada and the Judges of the Superior Courts of Nova Scotia, New Brunswick and British Columbia, touching the inequality of the salaries of the Judges of the same standing in the different Provinces.

No. 46.. COLLECTOR OF CUSTOMS, MONTREAL :—Return and Supplementary Return to Address, Copies of all communications addressed to the Minister of Customs, &c., within three years complaining of the conduct of the late Collector of Customs at Montreal, &c., and of any correspondence relating thereto, &c. [*Not printed.*]

No. 47.. ALLAN STEAMSHIPS :—Return to Address, shewing the date of the sailing of each of the Allan steam packet ships under contract for carrying the English mails on their voyages to and from Liverpool, and the dates of their arrival at that port, Halifax, Quebec and Portland, Maine, during the year 1873, and the first quarter of the year 1874. Specifying also the time occupied by such ships in each voyage. [*Not printed.*]

——————Copy of the agreement made by the Postmaster General with the Owners of the Dominion line of steamships by which they are to carry mails to and from Liverpool to Canadian ports or Portland. [*Not printed.*]

No. 48.. PRINCE EDWARD ISLAND, WINTER STEAMER :—Return to Address, Copy of the Advertisement for the Winter Steamer to Prince Edward Island, as well as of all Tenders received for said service. [*Not printed.*]

No. 49.. PORT STANLEY HARBOR :—Return and Supplementary Return to Address, Copies of all documents in possession of the Government, relating to Port Stanley Harbor, other than those brought down last session. [*Not printed.*]

No. 50.. CHICOUTIMI AND SAGUENAY, TIMBER :—Return to Address, shewing the number of pieces of timber, &c., exported each year, since the month of April, 1873, from the counties of Chicoutimi and Saguenay; particularizing the kinds of wood and localities whence the timber was shipped, &c.

No. 51.. BRITISH COLUMBIA TRANS-CONTINENTAL COMMUNICATION :—Return to Address, Copies of all instructions given to examine into the practicability of a Mixed Land and Water Trans-Continental communication with British Columbia, and for any reports received, and for copies of any other reports on the feasibility of using the waters of the Saskatchewan River for navigation purposes.

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No. 52.. HARBOR COMMISSIONERS, MONTREAL:—Return to Address, Correspondence between the Government and the Harbor Commissioners of Montreal; with letters of dismissal of Messrs. Delisle, Workman, Hudon and Ryan from said Commission; also any letters and telegrams on the same subject between the Honorable Messrs. Mackenzie, Dorion, and the Honorable John Young, one of the Harbor Commissioners of Montreal. [*Not printed.*]

No. 53.. WELLAND CANAL:—Return to Address, Correspondence (if any) between the Government and the Engineers in charge of the Welland Canal, during the last two years, as to the amount of damages sustained by land owners along the Grand River in the Counties of Haldimand and Monck; also copies of all Reports (if any), as to the valuation and payment of said damages. [*Not printed.*]

No. 54.. NATURALIZATION TREATIES:—Message communicating copy of a Despatch from the Secretary of State for the Colonies, dated 3rd September, 1873, in reply to an Address to Her Majesty on the subject of Naturalization Treaties.

No. 55.. WINDSOR AND ANNAPOLIS RAILWAY:—Return to Address, Minute of Council, authorizing the recent increase of tariff upon the Windsor and Annapolis Railway; and communications between the Government, the Windsor and Annapolis Railway Company, the Local Government of Nova Scotia, or any individual relating thereto; Also for a return of the tariffs upon various lines of Railway in Nova Scotia, viz., Windsor and Annapolis Railway, Intercolonial, and line between Windsor and Halifax. [*Not printed,*]

No. 56.. BOSSÉ, HON. JOSEPH NOEL:—Return to Address, Copies of all accounts transmitted to the Dominion Government by the Honorable Joseph Noel Bossé, for travelling expenses, &c., while holding the Criminal, Superior or Circuit Courts with a detailed statement of the sums paid. [*Not printed.*]

No. 57.. COURT OF APPEAL:—Return to Address, Correspondence between the Federal Government, and the Government of Quebec, in relation to the re-organization of the Court of Appeal in the Province of Quebec, from 1st January, 1871. [*Not printed.*]

No. 58.. MACHINERY IMPORTED:—Return and Supplementary Return to Address, showing the quantity and character of machinery admitted into Canada free of duty under the Order in Council, admitting free machinery not manufactured in the Dominion. [*Not printed.*]

No. 59.. ELECTION DISTRICTS:—Return to Address, Return prepared from the records of the Elections to the present House of Commons, showing the number of votes polled for each Candidate in the different Electoral Districts, during the late General Elections, &c.

——————Return to Address, Return of all sums paid to defray expenses of the late Elections to this House in the different Electoral Districts throughout the Dominion.

No. 60.. RAILWAY CARS:—Return to Address, Showing number of Railway Cars, that have been imported from the United States by Canadian Railway Companies since the 1st January, 1873; also their value and the duties paid.

No. 61.. FREEMAN'S PATENT TENT:—Return to Address, Correspondence relating to Freeman's Patent Tent Spring (the right to manufacture which has been purchased by the Dominion Government). [*Not printed.*]

No. 62.. AMHERST HARBOR:—Return to Address, Reports and plans relating to Amherst Harbor and Havre aux Maisons. [*Not printed.*]

No. 63.. PORT BURWELL HARBOR:—Return to Address, Correspondence between the Government and the Port Burwell Harbor Company, with reference to making said Port a Harbor of Refuge; with any representations made by owners of vessels, &c., in relation thereto. [*Not printed.*]

No. 64.. CITY OF HALIFAX:—Return to Address, Reports of the Minister of Public Works, Orders in Council, and correspondence with the Imperial Government, or any other parties touching the extension of the railway into the City of Halifax. [*Not printed.*]

65.. MAILS, RIVER DU LOUP, &C:—Return to Address, for

1st. Notices calling for Tenders for the transport of mails between River du Loup in the Province of Quebec and Edmonston in the Province of New Brunswick, for the four years, beginning on the 1st April or 1st May, 1868;

2nd. Tenders received for the transport of such mails;

3rd. Correspondence between the Postmaster General, &c., and the parties tendering, &c.;

4th. Correspondence having reference to the continuance of the said contract after the fixed period for which it had been given in 1868, together with copies of the contract. [*Not printed.*]

No. 66.. CHINA TRANS-PACIFIC STEAMSHIP COMPANY:—Return to Address, Memorials from the Chamber of Commerce, Victoria, B. C., in connection with the offering of a subsidy or other inducements to the ships of the China Trans-Pacific Steamships Co., running between San Francisco, Japan and China, to call at Esquimault, British Columbia. [*Not printed.*]

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No. 67.. PRINCE EDWARD ISLAND LIGHTHOUSES:—Return to Address, Papers and Minutes of relating to the building of Lighthouses in Prince Edward Island, since the 1st day of J.

No. 68. SIX NATION INDIANS:—Return to Address, Shewing any claims that may have been made by the authorities of town of Brantford to any portion of the lot of land near the Mohawk Institution, now in possession of the New England Company in trust for the Six Nation Indians, at the Grand River, Ontario; also copy of instructions, if any, to Mr. Gilkison, relative to the said lot, with copy of any Report from the said Superintendent and what decision the Government has arrived at.

No. 69.. PERRY, STANISLAUS FRANCIS:—Return to Address, Despatches from the Administrator of the Government of the Province of Prince Edward Island to His Excellency upon the subject of the resignation of the seat of Stanislaus Francis Perry, the Speaker and a Member of the House of Assembly of Prince Edward Island, together with all legal opinions and documents therewith enclosed. [*Not printed.*]

No. 70.. INDIAN TREATIES, N. W. TERRITORIES:—Return to Address, Copies of all Acts passed, and all appointments made by the Council for the N. W. Territories; together with all recommendations made by the said Council to the Dominion Government, in reference to the Indian Treaties, and Indian matters in the North West Territories. [*Not printed.*]

No. 71.. DOMINION AND PROVINCIAL NOTES:—Return to Address, Shewing the amount of Dominion and Provincial notes issued on the 1st of January and the 1st of July in each year, from 1868, with the amount of such notes at each period held by the Chartered Banks as reserve, and the amount of specie held by the Receiver General at each period, &c.

No. 72.. JUDGES OF THE SUPERIOR COURT, QUEBEC:—Return (in part) to Address, Copies of all accounts, &c., transmitted (from 1st July, 1867,) to the Dominion Government by each of the Judges of the Superior Court for the Province of Quebec, for all travelling and hotel expenses, in any place other than that in which such Judge had orders to reside, &c.; and statement of the several sums paid in conformity with such accounts.

No. 73.. ROYAL COMMISSION:—Return to Address, Statement of all the expenses connected with the issuing of the Royal Commission entrusted with the examination of the charges made by the Hon. L. S. Huntington against the late Adminstration—to contain the amounts paid and the persons to whom paid.

No. 74.. BRITISH COLUMBIA, INDIAN AFFAIRS:—Return to Address, Report of the Superintendent of Indian Affairs of British Columbia, for 1873; and all papers connected with the Indian Affairs of the said Province for 1873; also a Return shewing who recommended the appointment of Mr. Lenahan to the office of Assistant Indian Commissioner in the said Province, &c. [*Not printed.*]

No. 75.. MANITOBA WOOD LIMITS:—Return to Address, Return of all leases and sales of wood limits in Manitoba and the North West; the dates of the leases or sales, together with the terms, and the names of the lessees or purchasers. [*Not printed.*]

No. 76.. SPRING FLOODS, ST. LAWRENCE:—Return to Address, Report of the Commissioners named to enquire into the causes of the high Spring floods of the St. Lawrence, between Quebec and Montreal.

No. 77.. FARRER, E. J:—Return to Address, Correspondence between the Government and E. J. Farrer, one of the Editors of the Toronto *Mail*, and now an Emigrant Agent to Ireland; together with instructions issued to said Farrer when sent to Ireland; and a statement shewing the salary which he receives. [*Not printed.*]

No. 78.. WEBB, John:—Return to Address, Correspondence between the Dominion Government and Government of the Province of Quebec, and of the Reports, &c., in the matter of the made by Mr. John Webb, of Cap Santé, Manufacturer, for the purchase of a certain of land, in order to establish manufacturing establishments on it. [*Not printed.*]

No. 79.. BLAIR, BENJAMIN:—Return to Address, Contract entered into with Benjamin Blair, for ance of Mails between Granville and Wallace, in the County of Cumberland, Nova in September, 1873, and subsequently annulled by the Postmaster General. [*Not pri*

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SIXTH

ANNUAL REPORT

OF THE

DEPARTMENT

OF

MARINE AND FISHERIES,

FOR THE YEAR ENDED THE 30TH JUNE, 1873.

[*PRINTED BY ORDER OF PARLIAMENT.*

OTTAWA:
PRINTED BY I. B. TAYLOR, 29, 31 & 33 RIDEAU STREET.
1874.

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SIXTH ANNUAL REPORT

OF THE

DEPARTMENT OF MARINE AND FISHERIES,

FOR THE YEAR ENDED 30TH JUNE, 1873.

To His Excellency the Right Honourable Sir Frederic Temple, Earl of Dufferin, Viscount and Baron Clandeboye of Clandeboye in the County Down, in the Peerage of the United Kingdom, Baron Dufferin and Clandeboye of Ballyleidy and Killeleagh in the County Down, in the Peerage of Ireland, and a Baronet, one of Her Majesty's Most Honourable Privy Council, Knight of the Most Illustrious Order of St. Patrick, and Knight Commander of the Most Honourable Order of the Bath, Governor General of Canada, and Vice-Admiral of the same, &c., &c., &c.

MAY IT PLEASE YOUR EXCELLENCY,—

I have the honour to submit herewith, for the information of Your Excellency and the Legislature of Canada, the Sixth Annual Report of the Department of Marine and Fisheries, and the financial statements connected therewith, for the fiscal year ended 30th June, 1873.

I have the honour to be,

Your Excellency's most obedient servant,

A. J. SMITH,

Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 1st January, 1874.

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REPORT

OF THE

DEPUTY MINISTER OF MARINE AND FISHERIES.

To the Honourable
ALBERT JAMES SMITH,
Minister of Marine and Fisheries.

SIR,—I have the honour to submit herewith a report of the business and transactions connected with this department for the fiscal year ended 30th June last, and also an account of many of the transactions up to the end of the calendar year 1873.

As you are already aware, the Government which was in existence on the 30th June last, the close of the fiscal year, resigned office on the 5th of November last, and consequently the Honourable Peter Mitchell, who had been Minister of Marine and Fisheries since the Confederation of the Provinces on the 1st July, 1867, ceased to be Minister of this Department on that day, and only held office until his successor was appointed, which was on the 7th day of November last, when you were appointed Minister of Marine and Fisheries.

The financial statements of the Department are made up to the close of the fiscal year which ended on the 30th June last, but this report will contain an account of many of the transactions of the Department up to the end of the calender year which ended yesterday, as well as a report of the Board of Steamboat Inspectors for the calendar year, and a report of the Meteorological Branch of this Department for the past season.

The total amount expended by the Department on the various branches of the public service, administered by it during the fiscal year ended 30th June last, was $850,634.43, while the total amount voted was $930,040.

The total number of persons on the outside staff of this Department during last year was 1,123.

I have now the honor to submit to you the following statements with reference to the construction of new lights in the Dominion since the last report of this Department was made, and the maintenance of lights hitherto established:—

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ONTARIO DIVISION.

This division includes the lights and lightships of that part of the Province of Quebec extending between Montreal and the boundary line between the Provinces of Quebec and Ontario, as also those on the upper lakes, embracing the lights on the Ottawa River, the St. Lawrence River above Montreal, Lakes Ontario, Simcoe, Erie, Huron, Superior and the Georgian Bay. In this division there were ninety lighthouses in operation at the close of navigation, four light-vessels maintained wholly by the Government, and one light-vessel partly maintained by the Government.

The number of keepers paid directly by the Government for maintaining these lights was eighty, although in some cases the keepers at their own expense employed persons to assist them.

The new lighthouse recently erected at Middle Island, Lake Erie, near Pelee Island is a powerful red light, constructed on the catoptric principle, and was exhibited for the first time on the 17th September, 1872. The amount expended on it during the year ended 30th June last, was $2,224.35, while the amount expended on it during the previous fiscal year was $1,300, making the total cost at the end of last fiscal year $3,524.35. No permanent keeper has yet been appointed to it, but Mr. L. S. Brown, who is the lessee of the island and lives on the spot, has consented to take charge of it in the meantime, for the sum of $100 per annum. This is a more economical arrangement than could be made by appointing a keeper to come from some other place to attend to the light.

A very superior light has been erected on Corbay Point, at Batchewana Bay, near the eastern entrance of Lake Superior, and was lighted for the first time on the 1st day of October last. It is a powerful fixed white light on the catoptric principle, and has two circular burner lamps with 20-inch reflectors, and two flat-wick lamps with 16-inch reflectors, and can be seen at a distance of 20 miles. The tower is an octagonal wooden building painted white, and 63 feet high, with a dwelling for the keeper attached. The sum of $2,030 was expended on it up to the 30th June last, and the total cost of it, up to the 31st December, 1873, was $6,125.39. Mr. David Crawford was appointed keeper of this light on the 23rd September last, at a salary of $250 per annum.

Another very superior lighthouse was recently erected at Point Porphyry, Lake Superior, which has already been of much service to the steamboat trade on the lake. Mr. Donald Ross was appointed keeper of this light on the 10th April last, at a salary of $400 per annum. The tower is a square wooden building, painted white, and the light is a fixed white catoptric, and can be seen at a distance of 16 miles. The lighting apparatus consists of five No. 1 circular burner lamps and 20-inch reflectors. It was lighted for the first time on the 1st of July, 1873.

At Michipicoten Island, which lies in the track of vessels sailing between Batchewana Bay and Thunder Bay, in Lake Superior, lights were very much required, not only to lead vessels in case of storms into the harbor at that island, but also as a guide in proceeding between these places. A superior lighthouse was therefore erected at the

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entrance of the harbor, for the purpose of leading vessels safely in where there is good shelter for steamers during heavy gales. Both these lights are fixed white lights, on the catoptric principle; the one on Michipicoten Island consisting of five No. 1 circular burner lamps, with 20-inch reflectors, being a very powerful light, and visible at a distance of about 18 miles; the other one in the harbour has two flat-wick lamps, with 16-inch reflectors, and is seen on entering from the lake as well as up the harbour. Mr. Peter McIntyre was, on the 12th October, 1872, appointed keeper of both lighthouses at a salary of $435.

The total cost of these two lights, along with the lighthouse at Porphyry Point, up to the 30th June last, was $6,686.85, and with some expenditures made since that date, amount altogether to $7,549.37. The amount voted for the construction of these three lights was $8,000.

The lights at Michipicoten Island were lighted for the first time on the 28th August and 23rd September, 1872, respectively.

A new lighthouse of a minor class was erected during last season at Point aux Pins, on St. Mary's River, a few miles above Sault Ste. Marie, at the eastern entrance of Lake Superior, and the light was exhibited in it for the first time on the 6th September last. The tower is a square wooden building, painted white, and the light is a fixed white catoptric light, consisting of four mammoth flatwick lamps, with 16-inch reflectors, and can be seen at a distance of eight or ten miles where not intercepted by the land. The total cost of its construction up to the 31st December, was $1,408.50. Mr. W. G. Foote was appointed keeper of it, with a salary of $150 per annum, on the 23rd September last.

A new lighthouse was also erected last summer on the south-west end of Great Manitoulin Island, Lake Huron, for the purpose of general navigation, and to guide vessels through Mississaga Straits. The light is a fixed white catoptric light, consisting of two mammoth flat-wick lamps, with 20-inch reflectors, and one circular burner lamp, with 20-inch reflectors, and can be seen at a distance of about 15 miles. Mr. John Miller was appointed keeper of the light, at a salary of $300 per annum, and the light was first exhibited on the 12th day of August last. The total cost of its construction, up to the 31st December last, was $2,073.10.

A new lighthouse was also erected during last season, at Mackenzie's Wharf, in Owen Sound, Georgian Bay. The light is a fixed white catoptric light, consisting of three mam oth flat-wick lamps, with 16-inch reflectors, and can be seen at a distance of bout 12 miles. Mr. George Mackenzie, on whose wharf the lighthouse is built, was appointed keeper on the 14th of July, at a salary of $50 per annum, and the light was first exhibited on 11th July last. The total cost of its construction, up to the 31st December last, was $1,050.

Numerous applications had been made to this Department from time to time for a lighthouse at Windmill Point, near Prescott, in the River St. Lawrence, and it was thought very desirable to obtain possession of the stone tower at that place, which had been formerly used as a wind-mill. It was a very strong and substantial building, and an arrangement was made with the proprietor, by which it was purchased for $600, with

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the right of way to the river and from the main road. It was subsequently fitted up as a lighthouse, and the total cost of fitting it up and equipping it, along with the purchase of the tower and land on which it stands, was $3,266.27. It is a white fixed light on the catoptric principle, containing four mammoth flat-wick lamps, with 16-inch reflectors, and was exhibited for the first time on the 15th day of June last. The tower is 62 feet high, and the light can be seen at a distance of about 15 miles. Mr. Bernard Kean was appointed keeper of the light on the 31st May last, at a salary of $150 per annum.

A new light was also erected on the south side of Hamilton's Island, in the River St. Lawrence, about eight miles below Cornwall. The light is a fixed white light on the catoptric principle, consisting of three mammoth flat-wick lamps, with 18-inch reflectors and can be seen at a distance of 12 or 15 miles when not intercepted by the land. Mr. John Hamilton, the proprietor of the land on which it is built, was appointed keeper on the 3rd September last, at a salary of $120 per annum. The tower is square, painted white, and built of wood, and there is no dwelling-house attached. The total cost of its construction up to the 31st December last, was $1,388.90.

Another new lighthouse was erected last season, at Stonehouse Point, in the River St. Lawrence, a few miles above the one in Hamilton's Island. It is a square wooden tower, painted white, with a dwelling-house attached. The light is a fixed white light on the catoptric principle, consisting of three mammoth flat-wick lamps, with 18-inch reflectors, and can be seen at a distance of about 12 miles where not intercepted by the land. Mr. Kenneth Maclauchlan was appointed keeper on 3rd September last, at a salary of $150 per annum, and the light was first exhibited on the 25th day of July last. The total cost of its construction up to 31st December last, was $1,739.40.

Three lighthouses of a minor class were erected during last season on the Upper Ottawa River, above the City of Ottawa. One of these is situated at the head of Morris's Island, one in Campbell's Island, and the third on a high rocky islet at the mouth of Deep River. They are square wooden buildings, painted white, 20 feet high, and the lights are fixed-white catoptric, consisting of two mammoth flat-wick lamps, with 16-inch reflectors in each, and can be seen at a distance of 8 or 10 miles, where the view is not intercepted by the land. These lights were put in operation on 16th September last. Mr. Owen Smith was appointed keeper on the 14th day of July last of the light at the foot of Deep River, at a salary of $100 per annum; and Mr. Alexander Wilson was appointed keeper on 9th day of July last of the light in Campbell's Island, at $150 per annum. No appointment has yet been made for the third lighthouse. The total cost of construction and equipment of these three lighthouses, up the 31st December last, was $1,538.46.

The new lighthouse built on the shore at Point-aux-Anglais, in the Ottawa River, is erected on a substantial pier, which is well protected from running ice, and is a white catoptric light consisting of two mammoth flat-wick lamps, with 16-inch reflectors, and can be seen a distance of about 10 or 12 miles when not intercepted by the land. The light was first put in operation on the 20th day of August last.

A powerful fog-bell, weighing 1,000 lbs., worked with clock-work machinery, was

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erected last season in the vicinity of the lighthouse at Nine-Mile Point, Simcoe Island, about nine miles south-west of Kingston. This bell is sounded during foggy weather and snow storms, and has been of much service to vessels in such weather making Kingston harbour. The cost of the bell, machinery, and bell tower amounted to $1,273.62, and it is attended to by the keeper of the lighthouse at that place.

Another fog-bell, of similar size, and with similar machinery, has also been erected at Michipicoten Island, Lake Superior, for the purpose of guiding vessels into the harbour during foggy weather; the lighthouse keeper at that station attends to it, and it was erected and put in operation at a cost of $1,622.85.

It was found some time ago that the lighthouse at Goderich was being endangered by the bank on which it was built gradually washing away, till it has now receded so much that the foundation of the lighthouse is very near the edge of the bank. A contract was, therefore, made to build a pier or breakwater a short distance from the foot of the bank, and on the edge of the lake, for the purpose of protecting the bottom of the bank from the action of the water, which, in storms, washes it away. The work has now been completed to the satisfaction of the Department, and the sum of $3,850, the amount of the contract, has been paid to the contractor for the work.

The oil and other supplies for the lights in this division were furnished during July and August of last season, in the propeller *Bruno*, at a price previously agreed on, viz., $2,000 for the service; but it is not probable that the owners of this steamer will be willing to perform this service in future for the same amount, as the lighthouses are gradually increasing in number, and it would be advisable that the supplies for lighthouses in Lake Superior should be sent up in the steamer which supplies all the other lighthouses Hitherto the supplies for Lake Superior have been sent by the passenger steamers running from Sault Ste. Marie up to Thunder Bay, and this has been found to be very inconvenient, as it is difficult to get the supplies landed at each lighthouse by any of the steamers running regularly on that route without considerable addition to the ordinary charges or freight.

A lightship is maintained at Colchester Reef, Lake Erie, a short distance from the Canadian shore, by the Messrs. Hacket of Amherstburg, to which this Department contributed a subsidy of $500 for the past year. The persons who maintain this lightship have to depend upon private subscriptions from those who are benefited thereby, for the balance of cost of its maintenance.

The icebreaker which was built in front of the pier and light house at Point Claire, some time ago, was much injured during last spring by the ice carrying away a large portion of the top of it. The portion carried away, however, stranded on the shore below Point Claire, and means will be soon taken to have it brought back and replaced on the pier.

Mr. Isaac Hope, who was appointed Inspector of Lights for this division on the 7th day of March, 1871, at a salary of $1,200 per annum, was well advanced in years when he received the appointment, and ever since then he has been afflicted with very poor health, and during last year he nearly, if not altogether, lost his eyesight. He has been

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on sick leave since the beginning of 1872, and on the 18th October last left the service and received a gratuity of $425, being 4½ months' pay; Mr. Edwin Shibley, aged 52 years, was appointed Inspector of Lights in his place, on the 18th October last, at the same salary, viz., $1,200 per annum.

Mr. Andrew Hynes, keeper of the lighthouse at St. Ignace, Lake Superior, on leaving his station late in the fall of 1872, endured much fatigue and difficulty in trying to reach Silver Islet, or some other place of shelter for the winter. He was 18 days travelling 50 miles, and after his arrival at Silver Islet he died from the effects of the exposure which he had undergone. He was the second lighthouse keeper who perished in endeavoring to return from this station; and owing to this fact, and to the light now being of comparatively little importance to navigation in Lake Superior, it has been decided to discontinue it, and to erect other lights of more importance to the present growing trade. It was originally established for the benefit of the fisheries in that district, but as they have not been found as valuable as anticipated, it then became of very little importance. The building will probably be removed to some other place.

Mr. W. J. Swetman, keeper of the main light at Presqu'isle Harbour, Lake Ontario, having given up charge of that light, Mr. G. B. Simpson, keeper of the range lights in the immediate neighborhood of the main light, was appointed on the 15th May last to the charge of the three lights, and also of the buoys in the harbour, at a salary of $700, and the Department is of opinion that the lights will be more efficiently attended to under this arrangement. He also acts as guardian of the growing timber on this peninsula, which shelters the harbour, and his remuneration is included in the amount alluded to, viz., $700.

Mr. Henry Solomon, keeper of the lighthouse at Lonely Island, was drowned in the month of June last, while proceeding from Killarney, near the mainland, to the island with supplies. He had nearly reached the island, in company with an Indian, when the boat upset in a squall, and both Mr. Solomon and the supplies were lost, but the Indian was saved. He left a wife and a large family of young children, and the Government considerately appointed his son, Dominick Solomon, lightkeeper in his place, on the 17th September last, at a salary of $450 per annum, which will no doubt prove a great relief to the family, as they were in extremely poor circumstances.

Another sad accident occurred to a lighthouse keeper in this division while proceeding from his lighthouse, at Pigeon Island, in Lake Ontario, to Wolfe Island, on the 4th November last. Mr. Davis, the keeper of Pigeon Island lighthouse, was, with five others, unfortunately drowned on that occasion, and it is supposed that the boat in which they were, either swamped or upset during a gale of wind, as none of the parties were saved. The light has been placed in temporary charge of his son, who has been well recommended for the situation, and on whom the widow and a large family of children are depending for support.

During last summer 21 buoys were placed on Lake Simcoe, at a cost of $313.75, for the purpose of assisting the lake navigation in that locality. Eleven buoys were also placed in St. Joseph's Channel, Lake Superior, for the purpose of assisting the rapidly increas-

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ing navigation between Collingwood, Lake Huron and Thunder Bay, as well as other parts of Lake Superior. It is intended to place 21 buoys altogether in this locality, and it is probable they will be all placed as soon as the navigation opens in the spring. A new dwelling was also erected at Port Maitland for the accommodation of the keeper of that place, at a cost of $500. The total cost of maintaining the lights, lightvessels, fogbells, and buoys and beacons in the division for the last fiscal year, was $61,036.47 and the amount voted by Parliament was $68,100. The expenditure during same period for construction of new lighthouses, lightbeacons, and new fogbells, was $18,999.38, and the amount voted by Parliament was $24,600.

TRINITY HOUSE, MONTREAL.

At the time when the Confederation of the Provinces took place in 1867, the navigation on the River St. Lawrence, from Montreal down to the mouth of the river, was superintended by the two Trinity Houses of Montreal and Quebec, which had the charge of all the lights, light-ships, and buoys in that part of the river, as well as all matters connected with the pilotage of these two districts. The jurisdiction of the Trinity House, Montreal, extended from the limits of the Province of Quebec above Montreal, to Port Neuf, about 38 miles above Quebec, which is a distance of about 200 miles on the River St. Lawrence. The lights and buoys on the Richelieu River, running into the St. Lawrence, were also under the supervision of the Trinity House, Montreal.

The Trinity House, Quebec, formerly exercised jurisdiction extending from Port Neuf to the Gulf of St. Lawrence, and the Straits of Belle Isle, and managed all the lights and buoys in that district, including the lights on the Island of Anticosti, at Cape Rosier, and Gaspé Harbour. On the creation, however, of the Department of Marine and Fisheries in 1867, for the purpose of managing and superintending all the lights on the sea coast and inland waters of the Dominion, the functions of the Trinity Houses appeared, in some measure, to have become superfluous, and it was considered advisable that all the lights, light-ships, and steam fog-vessels of the Dominion should be placed under the immediate direction and supervision of the Department at Ottawa, in which was vested the management of all the other lights in Canada.

In 1870 an Act was passed by the Canadian Parliament, transferring the management of all the lighthouses, lightships, buoys and beacons, in the district of the Trinity House, Quebec, over to this Department, but the Trinity House, Montreal, still continued to manage the lighthouses in their district until the 1st of July last, when the management of the lights in that district was placed also under this Department. During last Session an Act (36 Vict., cap. 61) was passed, abolishing the Trinity House of Montreal entirely, and vesting in the Harbour Commissioners of Montreal all the duties relating to pilotage, formerly under the management of the Trinity House, and also providing that the buoys and beacons formerly maintained by the Trinity House, Montreal, should be placed and maintained by the Harbour Commissioners of Montreal, and the expenses of so doing paid out of the funds of such Commissioners. The management of the lights in this district devolved on the Minister of Marine and Fisheries, under the Act 33 Vic-

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toria, chap. 18, since the 1st of July last, and the lights and lightships formerly managed by the Trinity House, Montreal, have been managed by this Department since that time, and all matters connected with pilotage, buoys and beacons have been managed by the Harbour Commissioners. In consequence of this change, the services of the Master, the Registrar and Treasurer, the Clerk, the Superintendent of Pilots, and the Bailiff or Messenger were no longer required, and the Master, Mr. Louis Marchand, who had held that office for eleven years, was placed on the Superannuation List on the 31st July last, with an annual allowance of $244.80. Mr. Daniel Rooney, the clerk, who had held the office for 19 years, was also placed on the Superannuation List on the 21st October last, with an annual allowance of $359.52. Mr. Martin Brennan, who had held the office of bailiff for six years, was also placed on the Superannuation List on the 21st October last, with an annual allowance of $128.88. Captain P. C. Cotté, who had held the office of Superintendent of Pilots, and whose duty it was to place the buoys in their proper position, and attend to their maintenance, was also placed on the Superannuation List on the 21st October, with an annual allowance of $424.80. As the offices of these persons were abolished, an addition of ten years was made to their time of service in each case, in consequence of such abolition of office.

In the case however, of E. D. David, the Registrar and Treasurer, who would have been entitled to a handsome retiring allowance, no such allowance has been granted, as when the time came to hand over his securities and investments, on behalf of the Decayed Pilot Fund, to the Secretary of the Harbour Commissioners of Montreal, the fund was found to be largely deficient, and instead of there being $19,064 on hand, as shewn by his returns, there was only found the sum of $6,253, leaving a deficiency of $12,811. On a subsequent examination of his accounts, however, a still further deficiency of $3,406.84 was found, making a total deficiency of $16,217.84.

On the 26th July last, I received a letter from the Secretary of the Harbour Commissioners of Montreal, informing me of this large deficiency, when I immediately proceeded to Montreal, and had an interview with the Master and Wardens of the Trinity House, as well as with Mr. David, their Registrar and Treasurer, and also with Mr. Whitney, the Secretary of the Harbour Commissioners. I then ascertained that the Master and Wardens had not been in the habit of examining and checking the accounts and vouchers of their Treasurer for a number of years past, and they knew nothing whatever of the deficiency until I announced it to them; and Mr. David informed me that he was quite unable to make up the amount that was deficient. The defalcation of this officer was duly reported to the Privy Council, and to the Department of Justice, which took the necessary steps to bring a criminal action against him, the result of which was his conviction of embezzlement, for which he was sentenced to two years' confinement in the Penitentiary, where he now is. Legal steps have also been taken to recover the amount of his bond, namely, $4,000, from his two securities in Montreal, but the amount which is deficient in the Decayed Pilot Fund has not been made up from any other source, and unless it is so made up much suffering and misery will ensue to the poor widows, orphans and pilots, who have been trusting to the small pensions derived from this Fund for a

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living. It is to be hoped the Government will make good this deficiency caused by the defalcation of their officer.

In addition to the amount mentioned as being deficient in the Decayed Pilot Fund, Mr. David was also found deficient in the sum of $375, which had been paid to him by Mr. Whitney, Secretary of the Harbour Commissioners, Montreal, on account of coals supplied to the Harbour Commissioners by the Trinity House, but no entry for such sum appeared in Mr. David's books, and the money was never refunded to this Department.

The amount of salaries paid to officers of the Trinity House, Montreal, for the fisca year ended 30th June, 1873, was $4,725, which, with the amount of contingencies of the office, altogether amounted to $5,782.36. All this amount may be considered as so much saved to the Government by the abolition of the Trinity House, as the duties will now probably be quite as well performed, with little or no cost to the Government. Th more immediate management of the lighthouses and lightships between Montreal and Quebec, has been transferred to the agent at Quebec, who will now be the agent for the transaction of all the business of this Department, in the Province of Quebec, and the maintenance of the buoys and beacons has been transferred to the Harbour Commissioners.

The steamer *Richelieu*, which was formerly owned by the Trinity House of Montreal, and used for placing and maintaining buoys and beacons, underwent thorough repair last season, at a cost of $5,628, and on the abolition of the Trinity House, was loaned by this Department to the Harbour Commissioners of Montreal, on the understanding that this Department should have the use of her whenever she was required, and that she was to be maintained and kept up by the Harbour Commissioners during such time as she was employed in their service, but that she should be returned to this Department whenever so required. She has now been in their possession since the 1st of September last. Mr Rooney, the clerk, and Mr. Brennan, the bailiff of the Trinity House of Montreal have, since the abolition of the Trinity House, been employed by the Harbour Commissioners, and they will therefore suffer no inconvenience or hardship by the change.

The amount expended by the Trinity House, Montreal, during the fiscal year ended 30th June last, for the maintenance of lighthouses, lightships, buoys, and the steamer *Richelieu*, and the payment of all salaries in connection therewith, was $31,143.12.

In this division there were 49 lighthouses and three lightships; and the number of keepers and assistants paid by the Government to maintain these lights, was 41. The number of licensed pilots for piloting between Montreal and Quebec, at the close of navigation in 1873, was 36, two of which were not acting as branch pilots.

The number of buoys maintained in this district, and now under the charge of the Harbour Commissioners was, at the close of navigation, 136.

The sum of $5,000 was voted by Parliament for the construction of new lighthouses on the River Richelieu, and out of this vote, the following lighthouses have been erected, namely, two at Half-way Point, two at St. Valentine, and two at Lacolle. The lighthouses at Half-way Point were erected by Mr. James Sheridan, who contracted to complete them for the sum of $1,750; and the contract has been completed satisfactorily,

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and the lights put in operation on the 28th of April last. Mr. Dennis Menard was appointed keeper by the Trinity House, at a salary of $12 per month from that date, to the close of the season. The two lighthouses at St. Valentine were also erected by Mr. Sheridan for the contract sum of $1,250, and the lights were put in operation on the 28th April last. Mr. Paul Martin was appointed keeper by the Trinity House, at a salary of $10 per month from that date to the close of the season. The two lighthouses at Lacolle were also erected by Mr. Sheridan for the sum of $1,255, and put in operation at the same time as the others. Mr. W. H. Vanvelet was appointed keeper of this light, at a salary of $10 per month for the season.

In addition to these new lights, it was found advisable to maintain, during last two seasons, a temporary light on Ash Island, and another on Bloody Island, on the River Richelieu, and Mr. Ira Hammond attended to these lights at the rate of $20 per month. It is proposed to erect permanent lighthouses on this Island in the course of next season, in the event of Parliament voting the necessary sum for the purpose.

The sum of $1,500 was also appropriated by Parliament for the erection of two lighthouses at Lotbinière. These have also been erected by Mr. Sheridan for the sum of $1,300.

The sum of $5,000 was voted by Parliament last year for the purpose of erecting some additional new lighthouses between Montreal and Quebec, but no steps have yet been taken for the erection of these lights, beyond making the necessary inquiries as to the points at which they will be most required.

TRINITY HOUSE, QUEBEC.

The duties of this Corporation are now of a very limited nature, as they have nothing whatever to do with the management and control of lighthouses, lightships, buoys, or beacons; these matters being now attended to by this Department. Their principal duties are in connection with the pilotage system of the Lower St. Lawrence, below Quebec, and the Harbor Master acts as a member of the Board.

The Harbor Master and the Secretary-Treasurer each receive $1,600 per annum; the Master, $1,000; the Superintendent of Pilots, $1,200; and the Clerk to assist the Secretary Treasurer and Harbor Master, $1,200. The amount paid for salaries to this Corporation amounted last year to $7,353.18, and the amount paid for contingencies to $667.82, making the cost of the establishment $8,021. The amount voted by Parliament for these services during the last fiscal year was $8,021.

A report from the Trinity House will be found in the Appendix No. 4, from which will be seen the nature of the duties performed by its officers during the year ended 30th June last.

The number of pilots on the active list, under the supervision of the Trinity House, Quebec, on the 30th December, 1873, was 211, of which number 200 were performing active duty as pilots. Of this latter number one pilot was suspended and another deprived of his branch; but having each appealed to a superior court from the judgment of the Trinity House, they have continued in the active discharge of their duties as pilots

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until the judgment of the appeal court shall be given. During the year ended 31st December, 1873, there was one pilot apprentice admitted as a branch pilot for and below the Harbor of Quebec, and three old apprentices were remanded for further examination. Of the 311 pilots on the active list, three were employed as lighthouse and lightship keepers; three were employed as lighthouse and lightship keepers; three were in charge of steamers, and five were on the sick list. The number of pilots who were retired, struck off the active list, or died during the last calendar year was seven. The number of pilot apprentices on the list on 31st December last was 38. No new apprentice was indentured during the year.

During the last session of Parliament a new Act respecting pilotage for the Dominion (36 Vict. cap. 54) was passed, which comes into operation this day, making considerable alterations in the pilotage laws of the Dominion; and an Act was also passed to add to the number of the members of the Trinity House, Quebec, and to increase the powers thereof. It is proposed, under this Act, to increase in future the number of wardens of the Trinity House to 13, of which number the Quebec Board of Trade will have the power to elect four persons.

The annual statement required by law to be laid before Parliament relative to the Decayed Pilot Fund for the year ended 31st December, 1873, will be found in the Appendix No. 37 to this Report. At that date the state of the fund was as follows:—

Money lent and invested	$56,475 79
Interest due	201 61
Cash on hand, viz., in Savings Bank and in Treasurer's hands	2,304 33
	$58,981 73
Deduct arrears of pensions due	408 16
Balance to the credit of Fund	$58,573 57

The number of infirm or decayed pilots on the list at the present time is 46. The pensions allowed to them range from $40 to $120 each, but the bulk of them receive $96 each per annum.

The amount paid for pensions during last year was $11,324.66. Nine pilots were temporarily relieved out of the fund last year to the extent of $511.79. There were 92 widows of pilots on the list, receiving from $40 to $80 each, amounting in the aggregate to $6,280. There were 31 children of pilots receiving pensions, ranging from $10 to $48 each, amounting altogether to the sum of $720. The amount actually paid out for pensions during last year was $11,360.80, and the expenses connected with the management of the fund amounted to $500.54, including the sum of $440 charged by the treasurer as an allowance for the clerk, which sum will probably be discontinued in future, as the new Pilot Act relieves him of the trouble of collecting the poundage on pilotage, and requires the treasurer of the Corporation of Pilots to pay over to the treasurer of the Trinity House, Quebec, on the first of each month, 7 per cent of all sums received by

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him during the next preceding month for pilotage dues earned by members of the said Corporation, thus reducing the duties of the treasurer of the Trinity House very materially.

The total receipts of the fund during last year amounted to $19,559.49, including the poundage received from pilots, $7,449.99; fines, $15; interest on investm nts and capital returned, $12,094.50, and the balance in treasurer's hands from last year, which was $3,498.31. The total expenditure amounted to $22,753.47. The dividend paid to the pilots belonging to the Corporation of Pilots, for and below the Harbor of Quebec, during the calendar year 1873, was $635.50; but it is probable that under the new Act the number of pilots can be gradually reduced, as the conveniences for travelling between Quebec and the lower pilotage ground are now so very much improved that a smaller number of pilots will be able to perform the duties; consequently the dividends will be gradually increased.

A provision has been made in the new Pilotage Act authorizing and requiring the Trinity House of Quebec to submit a new scale of pilotage rates for the approval of the Governor in Council, in the event of the annual dividend of the pilots falling below the average of $600 for the three years previous, but no alteration can be made until after the end of 1876, the pilotage rates for this district being already fixed by the Act at the rates which have been in operation for some years. Provision is also made in the new Pilotage Act that not less than 150 pilots shall be kept on the active list nor more than 200. All the apprentices now under indentures have been duly licensed. By this arrangement the supply of pilots will probably be always regulated by the Trinity House to suit the demand, care being taken at the same time that the remuneration to this useful class of persons will not be placed too low, as much of the welfare of the interests of navigation in the Lower St. Lawrence depends upon the respectability, efficiency, and intelligence of the pilots of that most important part of the Dominion.

Many persons are still of opinion that a Trinity House at Quebec is now no longer necessary, and that its duties could be more advantageously performed by the Harbour Commissioners of Quebec, in the same way that the duties of the Montreal Trinity House are now performed by the Harbour Commissioners of Montreal, while it would simplify business to the merchant and shipowner, and at the same time effect a very considerable saving to the general revenue of the country. At none of the other ports in the Dominion, except at Quebec, Gaspé, and Amherst, is the expense of maintaining harbour masters defrayed out of Dominion Funds; and it is probable that the time is not far distant when all this Trinity House expenditure at Quebec will be transferred over to the Harbour Commissioners.

LIGHTHOUSE AND COAST SERVICE BELOW QUEBEC.

This division includes three minor lights and some buoys above Quebec; all the lights, lightships, steam fog-whistles and buoys in the river below Quebec, and in the Gulf of St. Lawrence, Straits of Belle Isle, and coasts of Labrador; and three lights on the north-west coast of Newfoundland, which are maintained by the Government of Canada.

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The agent of this department at Quebec, Mr. J. U. Gregory, manages this division as well as the lights between Montreal and Port Neuf, which have been recently put under his charge; and it is much the largest and most important division in the Dominion, as he attends to all the business of the department in the Province of Quebec including the Dominion steamers, River Police, Marine Police, vessels for the protection of the fisheries, distressed seamen, &c. His salary is $1,600 per annum, and he is assisted by two permanent clerks, one at $800 and the other at $600 per annum, and a junior extra clerk in the office; and has also the assistance of Mr Barbour, chief engineer of the steamer *Napoleon III.*, to inspect the lighthouses, and lighting apparatus in connection therewith, lightships, and steam fog-whistles.

In this division there were at the close of navigation thirty-eight light-houses, five light-ships, two of them iron, with steam-fog whistles on board, sixty-five buoys, and fifty-five beacons, and seven provision depôts. The number of keepers employed for these light-houses was thirty-eight, besides five captains for the light-ships, and about thirty-two persons as officers and crews for them, two engineers for the fog-whistles in light-ships, and eighteen assistants and gunners for the signal guns. There is also a steam-fog whistle at the south point of Anticosti, with an engineer to attend to it, and also one at Cape Ray. The total number of persons employed to attend to the lights and light-ships, and some fog-whistles in this division, was ninety-five. The total cost of the Red Island light-ship, up to the close of 1873, was $36,091.43, and at the commencement of navigation last spring, a second lantern was added to the vessel, as she had formerly only one lantern. This was found necessary to distinguish her from the other vessels lying at anchor. A serious accident happened to this vessel at the close of navigation, which has resulted in her being wrecked on White Island Reef, and it is possible she may have become a total loss. While on her way from her station at the closing of navigation, which took place much earlier than usual, she encountered the great storm of 18th of November last, and went ashore on the reef alluded to. As soon as it was known that she was in this difficulty, the Government steamer, *Napoleon III.*, was despatched from Quebec as soon as possible, to make an effort to save her, but nothing could be done in this direction; and it will depend entirely on the action of the ice, whether anything will remain of her in the spring. She was stripped of everything that could be saved, but every effort will be made to recover her if possible. She turned over on her side by the action of the ice during the winter, and I believe at present is lying bottom up, with several holes in her bottom. The captain and crew were twenty-four hours on the wreck, and had great difficulty in saving their lives by getting into the boat, and working their way through the ice to the south shore. If she should fortunately be recovered, it may probably be found advisable to place a screw in her, as it adds so much to the safety of the vessel in difficulties such as she encountered.

The total cost of the iron light-ship and steam fog-whistle at Manicouagan Shoals, up to the close of 1873, was $30,870.84. Reports have reached this office from time to time, of the great service which both the vessel at Manicouagan Shoals and the Red Island light-ship have been to the navigation of the St. Lawrence, but owing to the severity of

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the earlier part of this winter, which set in about the beginning of November, it was with great difficulty that the Manicouagan light-ship was brought to a place of safety. The captain finally succeeded in bringing her up to Goose Island, where he put her on shore for winter quarters, and she now lies safely there in the mud, about a quarter of a mile above Hosper Rock. The captains of both these light-vessels are of opinion that it is very desirable that vessels placed in such exposed positions as these are, should have a screw fitted in them, in order to save them from being wrecked during heavy gales, more particularly when the winter sets in unusually early and severe, before they can have an opportunity of being taken to a place of safety.

If light-ships with steam fog-whistles on board were fitted with a screw, in addition to the steam fog-whistle, it might possibly be the means of saving lives when vessels get wrecked in their neighbourhood in the Lower St. Lawrence; and Captain Connell, of the Manicouagan Light-ship, reports the case of a vessel being wrecked in the neighbourhood of the place where his vessel was anchored, and although he made every effort to reach her he could not do so as his vessel had no steam power by which she could be propelled through the flowing ice with which she was surrounded. An account of the difficulties with which he had to contend, on account of the early setting in of the winter, will be found in the Appendix, No. 60, which will also shew the great importance of a light-ship and steam fog-whistle being stationed at the Manicouagan Shoals.

A report by Captain Levesque, of the difficulties with which he had to contend, on account of the early setting in of winter, will also be found in the same Appendix.

Captain Levesque, master of the light-ship at Red Island, is also of opinion that if his vessel had been fitted with a screw, he would probably have been able to save her from being wrecked.

The other two light-ships, which are wooden ones, were brought safely to Eboulement Wharf, where they now are.

The Lower Traverse light-ship, which is very old, has been pronounced unfit for service in her present condition, and will be brought up to Quebec as soon as practicable in the spring, for the purpose of being examined and thoroughly repaired, if it should be found that she is worth the additional expense.

A new light-house, shewing a fixed red light, has been erected at Matane, in the County of Rimouski, on the River St. Lawrence, which can be seen at a distance of about ten miles. The tower is a square wooden built one, twenty-eight feet high, with a dwelling for the keeper attached. The illuminating apparatus is catoptric, and consists of two circular-burner lamps, with 20-inch reflectors, and two mammoth flat-wick lamps, with eighteen-inch reflectors. The light was first put in operation on 1st October last, and Mr. Francis Dionne, jun., was first appointed keeper on the 19th of September last, at a salary of $200 per annum. The total cost of building and equipping this light-house, up to the 31st of December, was $3,860.56.

A new light-house was also erected at Gaspé Cape, in the County of Gaspé, shewing a red light elevated 350 feet above high water, and can be seen at a distance of about twelve miles. The tower is square, built of wood, and is thirty feet high, with keeper's

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dwelling attached. The light is catoptric, consisting of four No. 1 circular burner-lamps, and 20-inch reflectors, and two mammoth flat-wick burner-lamps, with 20-inch reflectors. The light was put in operation on the 6th of October last. Mr. Charles Esnouf was appointed keeper on the 19th September last, at a salary of $800 per annum, he being required to provide out of this amount a competent engineer to work the steam fog-whistle which is now in course of erection at that place. The cost of lighthouse, lighting apparatus, &c., up to 31st December, 1873, was $3,125.98. The steam fog-whistle, which is now being erected there, is situated in the valley, about 270 yards from the light-house, and will be put in operation in the spring, when public notice will be duly given of it. The engine-house, fog-whistle, and apparatus in connection therewith, cost, up to 31st December, 1873, $4,149.42.

A light-house has also been erected at Port Neuf, on the north shore of the Lower St. Lawrence. It is built on a pier, and the light is a white fixed catoptric, containing three No. 1 circular burner-lamps, with 20-inch reflectors, and two mammoth flat-wick burner lamps, with eighteen-inch reflectors, and it can be seen at about fifteen miles distance. It was put in operation about the 22nd October last, and will probably prove of great service to navigation in warning vessels from approaching too near the dangerous shoals which lie about a mile from the lighthouse. Mr. Zephirin Warren was appointed keeper on the 23rd of September last, at a salary of $200 per annum. The total cost of this light-house and apparatus in connection therewith, up to 31st December, 1873, was $3,714.29.

A light-house has also been erected near Etang du Nord, on the west side of Grindstone Island, one of the Magdalen Islands, in the Gulf of St. Lawrence. It is a white revolving light, on the catoptric principle, shewing a flash every minute and a half, and making a complete revolution every three minutes. It has two faces, with three No. 1 circular burner lamps, and 20-inch reflectors in each face, and is elevated about 200 feet above the level of the sea, and is visible at a distance of about twenty miles from all points of approach. The tower is a square wooden building twenty-eight feet high, with dwelling attached for the accommodation of the keeper. It will be put in operation on the 20th April next, and its total cost, up to the 31st December, 1873, was $5,641.57. A steam fog-whistle is also in course of erection at this station, the engine-house of which has now been completed, and the steam fog-whistle is now being made in Chatham, Miramichi, and will be taken to the island next spring, and put in operation sometime about midsummer next. No permanent appointment has been made to the charge of either the fog-whistle or lighthouse at this station, but a qualified person has been put in temporary charge of it. The total cost of the steam fog-whistle and engine-house, up to the 31st December, 1873, was $4,943.80.

A lighthouse has also been erected at Entry Island, one of the Magdalen Islands, from which will be exhibited a fixed red light on the catoptric principle, and will be put in operation sometime next season. The illuminating apparatus consists of an iron frame with a lower tier of six circular burner lamps and 22-inch reflectors to each, and an upper tier consisting of three mammoth flat-wick lamps and twenty-two inch reflectors.

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On the 23rd of September last, Mr. James Cassidy was appointed to be keeper of this light, as soon as it is ready, at a salary of $250 per annum. The amount expended on it up to 31st December, was $5,641.57.

A steam fog-whistle has also been erected at Cape Ray, on the most westerly point of Newfoundland, very near the lighthouse which was erected there by the Government of Canada about two years ago. It was put in operation on the 20th of October last, and will be sounded every ten seconds in each minute, leaving an interval of fifty seconds between each blast. It has been placed under the charge of the lighthouse keeper, Mr. Rennie, who is allowed $1,000 for his salary, out of which he is required to keep an efficient engineer to work the steam fog-whistle. In the mean time, however, until he learns his duties, an engineer has been sent there at a salary of $500 per annum, $400 of which will be charged against Mr. Rennie's salary. The total cost of this whistle and buildings, to the 31st December, was $9,454.45.

A contract has been made for the erection of a new lighthouse at Cape Despair, in the County of Gaspé, near the entrance of Bay of Chaleur, and a contract has also been made for the erection of a light at Point Macquereau, at the dividing line between the Counties of Bonaventure and Gaspé, near the entrance of the Bay of Chaleur, both of which lights will probably be put in operation shortly after the opening of navigation.

The amount expended on the light-house at Cape Despair, up to the 31st December, 1873, was $4,271.94.

A lighthouse has also been erected on the wharf at St. John, in the Island of Orleans, and will probably be put in operation at the commencement of navigation next season.

A new lighthouse has also been contracted for at Metis, between the lighthouses at Father Point and Matane, on the River St. Lawrence, and will also be lighted next spring.

A lighthouse was also recently erected at Cape Blanc, Percé Roadstead, in the County of Gaspé, and will probably be put in operation early next season.

During the past season the navigation of the Saguenay was much improved by the erection of beacon lights, and the sum of $414.40 was expended in the erection and maintenance thereof.

At the lighthouse at Paspebiac a change took place in the keepership last season, and Mr. John F. Gallie resigned his charge, and Mr. Lionel Strong was appointed keeper on the 3rd of April last, at a salary of $150 per annum.

Mr. Pierre Bouillianne was appointed keeper of the new lighthouse at Lark Islet, at the mouth of the Saguenay River, on the 14th April last, at a salary of $150 per annum.

Mr. Thomas Connell, one of the oldest and most experienced of the pilots of the River St. Lawrence, for and below Quebec, and for several years commander of one of the steamers of the Quebec and Gulf Ports Steamship Company, was appointed keeper of the Manicouagan lightship on the 24th April last, at a salary of $800 per annum. As the lightship at this station is placed on a most exposed position, and requires the very

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best man to be placed in charge of her that can be found, it was considered necessary to give Captain Connel this amount of salary, which appears high as compared with the salaries of keepers of lighthouses.

At Point Rich, on the west coast of Newfoundland, there was a lighthouse established with a powerful revolving light, of which Mr. Eugene Roy was appointed keeper about two years ago, with a salary of $500 per annum, but without any assistant, and in order to enable him to keep an assistant, without which he felt unable to attend to the light, his salary was increased from $500 to $600 by Order in Council, dated 23rd September, 1873.

The keeper of the light at Carleton Point, Mr. E. Landry, whose salary was $200 per annum, had his salary increased to $300 per annum, by Order in Council, dated 27th October, 1873, as the sum formerly allowed was found to be too small for the service he was required to perform.

Mr. J. B. Picard, keeper of the lighthouse at Brandy Pots, was placed on the Superannuation List with a pension of $102.67 per annum, and Mr. Narcisse Richard was appointed keeper in his place on the 22nd of December last, at a salary of $400 per annum.

Mr. Thomas LeBel was appointed keeper of the lighthouse at Bicquet on 22nd December last, with a salary of $600 per annum, in place of Mr. J. T. Bechard, who resigned that office. This includes the allowance for a gunner, fuel and water.

There are now in the Quebec District, including the River St. Lawrence below Montreal, under the superintendence of Mr. Gregory, the agent of the Department at Quebec, 94 lighthouses, eight lightships, six steam fog-alarms, eight fog-cannons, 64 buoys, 55 beacons, and seven provision depôts for distressed seamen.

The total amount expended during the year ended 30th June, 1873, for the maintenance of lights, lightships, steam fog-whistles, signal guns, buoys and beacons in the district below Quebec, including those from Quebec up to Port Neuf, was $65,545, and the amount voted by Parliament for the service, including a supplementary vote of $5,000, was $65,545. The sum of $32,803.87 was also expended during the last fiscal year in connection with the construction of new lighthouses and steam fog-whistles in this district and the appropriation voted by Parliament for construction in the District alluded to, was $60,500.

NEW BRUNSWICK LIGHTS.

The business of this Department in New Brunswick is under the superintendence of Mr. J. H. Harding, its agent, whose office is in St. John, N. B., and who receives a salary of $1,600 per annum. He has the assistance of his son, who is a clerk in the office, at a salary of $600 per annum; and Mr. James Mitchell is the Superintendent of Lights, residing at Newcastle, Miramichi, with a salary of $1,200 per annum.

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In this Division there are 53 lighthouses attended by 44 keepers; one lightship, and three steam fog-whistles. Of the 53 lighthouses, 26 are sea-lights, and 27 minor lights.

On the 30th May last, Mr. Jonathan Kent, who had been for many years lighthouse keeper at Swallow Tail Lighthouse in the Bay of Fundy, was placed on the Superannuation List with a pension of $176.76, to take effect from the 1st July; and his son, Mr. John H. Kent, was appointed lighthouse keeper in his place, on the 27th March last, with a salary of $400 per annum, to take effect from the 1st of April.

Mr. Alexander Reid, who has been lighthouse keeper at Partridge Island, near the entrance of St. John Harbour, for the last 38 years, and who has during that period been a faithful public servant, was placed on the Superannuation List on the 1st of July last, with a pension of $377.64 per annum. And Mr. James Wilson, who has been the engineer of the fog-alarm at that station for some years past, was appointed to the joint position of lighthouse keeper and engineer of the fog-alarms, with an annual salary of $800 per annum, out of which he has to pay the salary of an assistant, by which arrangement a saving of $340 per annum was effected.

At the beacon light in St. John Harbour, Mr. Timothy Clark was appointed keeper on the 20th December, 1872, with a salary of $400 per annum, in the room of Mr. Ross, the former keeper, who resigned.

Mr. George Rodgers, keeper of the the two beacons on the upper end of Fox Island, having been transferred to the charge of the lightship near Fox Island, Mr. Wood Williston was appointed keeper in his place, by Order in Council of 31st May last, at a salary of $300 per annum.

Mr. William Hay, keeper of the lighthouse at Escuminac, died during last season, and Mr. Thomas Phillips was appointed, on the 19th September last, lighthouse keeper, and to have charge of the steam fog-whistle to be erected there, at a salary of $800 per annum.

A new lighthouse was recently erected at Cape Spencer, in the Bay of Fundy, near the eastern entrance of St. John Harbour. The light is revolving on the catoptric principle, elevated 207 feet above high water, shewing a red light for 45 seconds and a white light for 45 seconds, and making a complete revolution in three minutes. It is considered one of the best lights in the Dominion, and can be seen at a distance of 20 miles. It has been reported that the white flash has been seen at a distance of 34 miles. The lighting apparatus is catoptric, and consists of two faces, each face containing two circular burner lamps with 20 inch reflectors. The lighthouse is a square wooden building, painted white, with keeper's dwelling attached. It is 27 feet high from the base to the centre of the light, and 35 feet to the top of the lantern. The light is intended to be a coast light for the purpose of guiding vessels entering Saint John Harbour, and it was first lighted on 16th June last. The total cost of the building, lantern, lamps, &c., was $6,813.22, and Mr. G. C. Blacklock was appointed keeper on the 15th August last at a salary of $400 per annum.

Two minor beacon lights were recently erected at Sheldrake Island, Miramichi Bay.

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The beacons are on the north side of the island, a quarter of a mile apart, and painted white. The lights are fixed white, on the catoptric principle, elevated 48 feet above high water, and can be seen at a distance of nine miles. The lighting apparatus consists of four lamps with 12 inch reflectors. They were put in operation on 13th June last, and Mr. John Cameron was appointed keeper at a salary of $300 per annum on the 31st May last, but owing to ill health he left the island, and Mr. John McKay has been put in charge in his place under Order in Council of the 22nd April last. The total cost of these beacons, up to the 31st December, was $536.50.

The schooner *S. G. Marshall*, owned by this Department and formerly employed in the protection of the Fisheries, was fitted up as a lightship and placed in the Inner Horse Shoe Bar between Fox and Portage Islands, Miramichi Bay, and a red light exhibited at an elevation of 35 feet above water, and will be seen at a distance of about 8 miles. The light is catoptric, consisting of four lamps and reflectors, and was first shewn on the 12th July last. Mr. George Rodgers, who had charge of the two beacons on Fox Island, was appointed keeper of the lightship by Order in Council of the 31st May last at a salary of $700 per annum for himself and assistant, to which was subsequently added $200 additional for another assistant.

A beacon lighthouse has also been erected at Middle Island, a little below Chatham, on the Miramichi River, and Mr. Alexander Jessamin was appointed keeper at a salary of $300 per annum, by an Order in Council of the 13th August last.

A new lighthouse was recently erected at Neguac, in the county of Northumberland, which shews a fixed white light, and was exhibited for the first time on the 20th of August last. The apparatus is catoptric, consisting of four mammoth flat-wick lamps with 16 inch reflectors. It is situated on the north-east side of the Neguac Gully, and serves the purposes of general navigation as well as to guide fishermen and small craft into the gully. The light is elevated 35 feet above high water and can be seen at a distance of about 11 miles. The tower is a square wooden building, painted white, and is about 20 feet high The total cost, including the lighting apparatus, up to 31st December, was $952. Mr Farnham Letson was appointed keeper at a salary of $200 per annum on the 31st of May last.

A new lighthouse was also recently erected at Crabbe Island at Tabusintac Gully and a fixed red light is shewn from it. It was exhibited for the first time on the 20th August last. The apparatus is catoptric, and consists of four mammoth flatwick lamps with 16-inch reflectors. The tower is a square wooden building, 20 feet high, and the light answers the purposes of a coast light as well as to guide small craft into Tabusintac Harbour. The total cost, including apparatus, up to 31st December, was $977.50. Mr Thomas Savoy was appointed keeper on the 9th July last, with a salary of $200 per annum.

Two minor lights were also recently erected in Grand Lake, Queen's County, which connects with the River St. John—one at Robertson's Point and the other at Fanjoy's Point. The lights are both fixed white catoptric lights, elevated 16 feet above high water, and can be seen at a distance of 10 miles. The apparatus consists of three flat-wick

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lamps, with 16-inch reflectors for each lighthouse. The towers are square wooden buildings, painted white, and the lights were put in operation on the 1st of October last for the first time. Mr. S. H. Robertson was appointed keeper of the one at Robertson's Point, and Mr. William Fanjoy at Fanjoy's Point, at a salary of $80 per annum in each case, the former on the 23rd of September and the latter on the 31st of May last.

A steam fog-whistle has recently been erected in the vicinity of the two lighthouses at Machias Seal Island, near the entrance of the Bay of Fundy, and was put in operation on the 1st of December last. Directions have been given to sound it, so as to give two blasts of five seconds in each minute. The total cost of steam fog-whistle, engine-house, &c., up to 31st of December last, amounted to $8,975.05. Mr. James Aykroyd has been appointed keeper at a salary of $500 per annum, on the 30th of February last, such appointment to take effect from the 1st of October last. As there is no dwelling on the island for him, it is probable that some arrangements will be made by the Department to place one man in charge of the two lighthouses and the steam fog-whistle, by which a saving in salary will be effected, and the necessity of erecting a dwelling house thereby avoided.

A steam fog-whistle is also in course of construction at Grand Manan, on the entrance of the Bay of Fundy, and there has already been expended on it up to the 31st of December the sum of $3,704. It will probably be in operation early next summer.

A steam fog-whistle is also in course of construction at Miscou Island, in the County of Gloucester, in the neighbourhood of the lighthouse already there. The amount expended on it up to 31st December last was $3,811.26. It is not nearly finished yet, but will probably be in operation early next summer.

A steam fog-whistle has also been erected at Escuminac Point, in the County of Northumberland, at the entrance of Miramichi Bay, and the amount expended on it up to the 31st of December last was $3,413·09. It will probably be in operation next summer.

A steam fog-whistle is also in course of erection at Cape Enrage, in the County of Albert, Bay of Fundy, but the expenditure on account of this steam fog-whistle will appear in the accounts of the current fiscal year. The total amount expended for the fiscal year ended 30th of June last for the maintenance of lighthouses, steam fog-whistles, buoys and beacons in this Province was $29,266.85, and the amount voted by Parliament for this service was $34,427. The expenditure in connection with the construction of new lighthouses and steam fog-whistles during the last fiscal year, was $16,691.06, and the amount voted was $31,400.

NOVA SCOTIA LIGHTS.

In this Division the business of the Department is managed by Mr. H. W. Johnston, the agent of this Department at Halifax, at a salary of $1,600 per annum, under the direction of the chief office at Ottawa. He is assisted by an Inspector of Lights, Captain Kendrick, at a salary of $1,200 per annum, who visits the different lighthouses throughout the Province. He has also a clerk to assist him in the office, Mr. Henry Dolby, at a

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salary of $600 per annum. In connection with this Department at Halifax, Captain Scott, R.N., who is Chairman of the Board of Examiners of Masters and Mates, has an office, and his advice and assistance is being constantly required by the Department, he having been an officer of the Royal Navy for many years, and an Admiralty surveyor, and the Department has much confidence in his opinion of nautical affairs. Lieutenant Brown, R.N., Clerk of the Board for the Examination of Masters and Mates, is also stationed at Halifax in connection with this Department, and his nautical experience is also made available by the Department when required.

In this Division lighthouse supplies have been partly delivered in the Government steamer *Lady Head*, and partly in the schooner under the charge of Captain Kendrick.

At the end of the year there were in this Division 82 lighthouses, each lighthouse having a keeper to take charge of it, but there are no assistant lighthouse-keepers in the Nova Scotia District paid by the Government. Any assistants that the light-keepers may require are paid by themselves.

A new lighthouse was erected last year at Country Harbour, in the County of Guysborough, from which is exhibited a fixed light elevated 51 feet above high water. It is built on the south point of Green Island, and is visible from 14 to 16 miles. The illuminating apparatus is catoptric, consisting of four powerful No. 1 circular burner lamps, with 20-inch reflectors and cast-iron stands. The light was first put in operation on the 1st of May last. Mr. Wm. B. Foster was appointed keeper at a salary of $400 per annum. The total cost of this lighthouse was $1,872.70.

A new lighthouse of a minor description was recently erected at Mullin's Point, on the north side of Wallace Harbour, in Cumberland County, from which is exhibited a fixed white light, elevated 39 feet above high water. It was shown for the first time on the 1st of August last, and can be seen at a distance of 11 miles. The apparatus is catoptric, consisting of one mammoth lamp, with 16-inch reflector. Mr. Benjamin Smith was appointed keeper at a salary of $100 per annum, by an Order in Council of the 18th of August. The total cost of this light was $419.

A new lighthouse was recently erected on the north-east point of Spectacle Island, Queen's County, near the entrance to Mouton Harbour. It shows a fixed red light, elevated 47 feet above high water, and was first exhibited on the 1st of September last, and can be seen at a distance of 11 miles from all points of approach. The apparatus is catoptric, consisting of three mammoth flat-wick lamps, with 16-inch reflectors. Mr. Robert J. Smith was appointed keeper on the 11th of November last, at a salary of $300 per annum. The amount expended in constructing this light to 31st December was $1,375.25.

A new lighthouse was recently erected at Sand Point, at the south side of the entrance to Shelburne Harbour. The tower is a square wooden building, painted white, and the light, which is a fixed red, was first exhibited on the 1st September, 1873. Mr. Edward Goudock was appointed keeper at a salary of $200 per annum. The apparatus is catoptric, and consists of two mammoth flat-wick lamps with 16-inch reflectors. The total cost of this light up to 31st December was $601.99.

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A new lighthouse was recently erected at Green Island, Margaret's Bay, County of Lunenburg, and is situated on the south point of the Island. It shews a revolving red and white light, flashing every minute and a half, and making a complete revolution every three minutes. The light is elevated 59 feet above high water, and can be seen at a distance of 15 miles. It was first exhibited on the 15th September last. The apparatus is catoptric, having two faces, with three circular burner lamps and 20-inch reflectors in each face. Mr. Albert Pearl was appointed keeper on the 29th December last at a salary of $500 per annum. The amount expended in erecting this light up to 31st December last was $2,950.29.

A new lighthouse was recently erected on the north side of the entrance to Walton Harbour, Basin of Mines, Hants County, from which is exhibited a fixed red light elevated 60 feet above high water, and was shewn for the first time on the 1st November last. It can be seen in clear weather at a distance of 10 miles from all points of approach. The apparatus is catoptric, and consists of two mammoth flat-wick lamps with 16-inch reflectors. Mr. Timothy Parker was appointed keeper on the 10th July last at a salary of $100 per annum. The expenditure on this light to 31st December was $755·50.

A new lighthouse has recently been erected on the east end of Sable Island, near Lighthouse Hill, so-called, and the light was first exhibited on the 14th February last. The light is a powerful fixed white dioptric, second order, and is elevated 120 feet above high water, and in clear weather can be seen at a distance of 18 miles, although it has been reported to have been seen much farther off. The tower is an octagonal wooden building 86 feet high, painted alternately white and dark brown, and stands about 1½ mile from the end of the Island. It will be very useful as a day beacon for ships at a distance, and will enable persons to distinguish the island long before they can see it or come near its dangerous bars. At night it will be more useful still, as from the mast of a vessel at sea it will be seen a long distance off, probably 25 miles. The apparatus is made of heavy cut crystal, by Sautier, of Paris, at a cost of upwards of $10,000, including additions by Chance, of Birmingham, and is illuminated by one of Doty's concentric 4-wick lamps, and has been pronounced, by persons who have seen it at a long distance, to be a most brilliant light, looking like a large ball of fire. It will also form a splendid look-out for the Humane Staff on the Island, who will be able to command from the top of the tower a fine view of nearly the whole Island. In the immediate vicinity of the lighthouse a powerful steam fog-whistle has also been erected, and is sounded in thick or foggy weather as follows:—First, a blast of three seconds, then an interval of three seconds; then another blast of three seconds, and an interval of same duration; and then a blast of three seconds with an interval of forty-five seconds to complete the minute. It will be heard from three to fifteen or twenty miles, according to the state of the atmosphere and the force and direction of the wind. Mr. J. Norman was appointed engineer of the steam fog-whistle and keeper of the lighthouse, on 24th December, 1872, at a salary of $600 per annum; and he will be assisted by two men of the staff, who will take their turns in watching the light at night, and attending to the steam fog-whistle when in operation.

A very superior lighthouse has also been recently erected on the west end of Sable

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Island, from which is exhibited one of the most powerful revolving white lights which are to be seen on this continent. The apparatus is on the catoptric principle, and has three faces, following one after another, and then an entire cessation of light. In these three faces there are fourteen circular burner-lamps of the most powerful description, each having 24-inch reflectors. The light is elevated 123 feet above high water, and makes a complete revolution in three minutes, showing three distinct flashes at intervals of half a minute,—the cessation of the light being one and a half minute during each revolution. This light was first exhibited on the 15th of November last, and can be seen at a distance of upwards of eighteen miles. The tower is an octagonal wooden building, 98 feet high, and is painted white. In the vicinity of this lighthouse a powerful steam fog-whistle has been erected, and will be sounded eight seconds in each minute, leaving an interval of 52 seconds between each blast. It will be probably heard from three to fifteen or twenty miles, according to the state of the atmosphere and direction and force of the wind. Mr. William Morrison was appointed engineer of the steam fog-whistle and keeper of this lighthouse, on the 3th of July last, at a salary of $600 per annum, and he has two of the staff to assist him.

At both these light stations, as well as at the Humane Station on this island, the engineers and other employés of the department are all maintained at the expense of the Government; and, in order to render the arrangements as complete as possible in the case of shipwrecks in the neighborhood of the new lighthouses, arrangements have been made to keep a horse at each station in order that assistance may be procured from some of the other stations when required. One or more cows will also be placed at each station, so as to render the keepers as comfortable as possible in the isolated and solitary positions in which they are placed. The total expenditure up to 31st December, 1873, on account of these two lighthouses and two steam fog-whistles, including sheds and keepers' dwellings, was $58,070.98.

A new steam fog-whistle has also recently been erected on Briar Island, near the entrance of the Bay of Fundy, and was first put in operation on the 1st day of March last. It is situated on the north-west point of the island, on the south side of the light house, and is sounded with a blast of four seconds; then an interval of four seconds; then another blast and an interval of the same duration; and then a third blast of four seconds, with an interval of forty seconds to complete the minute. The whistle will be heard at a distance of from three to fifteen or twenty miles, according to the state of the atmosphere and the force or direction of the wind. Mr. J. Cormack was in temporary charge of this whistle, at $2 per diem, from the time it was first put in operation to the 27th of November last, when he was transferred to the Halifax light-ship, and Mr. Franklin Suthern was placed in temporary charge of the whistle in his stead. The total cost of this steam fog-whistle, buildings, &c., up to the 31st December, 1873, was $7,491.64.

Two minor lighthouses are now under contract at Bras d'Or Lake, Cape Breton, one at Mackenzie's Point, Plaster Harbour, and the other at Macniel's Point. It is expected they will shortly be completed and ready for service.

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Another new lighthouse was recently erected at Creighton's Head, West Arichat, Cape Breton County, but during the terrific gale of the 24th of August last, when nearly completed, it was blown over; but arrangements have since been made with the contractor to raise it up again. It will be put in operation on the opening of navigation.

A beacon lighthouse has also been recently erected in Yarmouth Harbour, and the light will shortly be put in operation. The total cost of erecting this beacon and light-house, up to 31st December last, was $3,433.18.

Contracts have also been made for the new lighthouses at Point Aconi, at Little Bras d'Or, and on Lingan Head, Cape North and Cape George, all in Cape Breton; also on Bon Portage Island and White Head Island, Yarmouth County; Church Point, Digby; Cape La Ronde, and Ouetique Island, Cape Breton; Ragged Point, Guysboro'; and also for a beacon at Gull Island, Guysboro' County.

A new iron light-ship was contracted for in England by Messrs. John Haws & Co., of Liverpool, on behalf of the Department, for the purpose of being placed near the entrance of Halifax Harbour, and to answer the purposes both of light-ship and steam fog-whistle. She was built by Richardson, Duck & Company, at South Stockton-on-Tees, of similar dimensions to the Manicouagan light-ship, also built by that firm. She arrived at Halifax on the 10th of August last, and was placed at her station in forty-five fathoms of water, about four or five miles to the north-west of Sambro Island, on the 15th day of November last. On account of the exposed position in which she was placed, and the heavy weather which was encountered at that late season of the year, she had to be brought into Halifax Harbour, the captain and crew having been obliged to signal for assistance, as they were afraid that she would founder at her moorings, the seas at the time completely sweeping her decks. It appears that she leaked considerably; and having been brought in and put on the marine slip, she was examined by Mr. William M. Smith, steamboat inspector, and Mr. A. McDonald, who reported that the vessel did not appear to have strained or worked in any part, and that the size and strength of materials were in every particular such as the plans and specifications required, and that the workmanship, with the exception of the riveting of the garboard sheak, was very good. The difficulty appears to have been that she was too small for that exposed position, and the crew got afraid she would founder, as she was making water, which was probably taken in through the hatches on deck during the heavy weather. The steam fog-whistle on board of her was furnished by Messrs. Symonds & Company, of Halifax. It is not likely that she will be fit to be placed in that exposed position again, as in heavy weather a vessel at anchor there would experience the whole sweep of the Atlantic ocean, and it would probably require a much larger vessel than this one, with a spar-deck, and a screw with steam power, to be used in heavy gales, to enable her to keep such an exposed position. Although this light-ship would have been very useful to vessels trading to the West Indies, and to ports of the United States, she would not have been of much value to the large passenger and mail steamers coming from England, as she was anchored too far to the westward, and it is thought that a steam fog-whistle on Sambro' Island will answer the purposes nearly as well as the light-ship. Her total cost, up to the 31st of December,

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including fog-whistle and lighting apparatus, was $40,692.97. Captain Powell was appointed keeper of her on the 31st of October, with a salary of $800, but as soon as it was found that the vessel was unequal to the position, the captain and crew were paid off. This vessel will be required at Red Island Reef, below Red Island, at the mouth of the Saguenay River, in the River St. Lawrence, to take the place of the light-ship which was wrecked there last fall.

Mr. Shepherd J. Frost, engineer, was placed in charge of the lighthouse and steam fog-whistle at Digby last April, and has since been appointed by Order in Council, keeper of both establishments, at a salary of $800 per annum, out of which he must pay an assistant. The lighthouse at this station was burnt down some time ago, but will soon be rebuilt.

Mr. William Hayden, engineer of the steam-fog whistle at Seal Island, resigned his situation on the 18th day of April last, and Mr. Corning Crowell was placed in temporary charge thereof.

Mr. Norman Campbell, keeper of Beaver Island Lighthouse, County of Halifax, was placed on the superannuation list by Order in Council, dated 30th of May last, with an allowance of $207.36, commencing from the 1st of July last, and his son, Norman McIvor Campbell was appointed in his place, at a salary of $400 per annum, by an Order in Council of the 15th of May last.

Mr. C. J. T. Fox, keeper of Yarmouth Lighthouse and steam fog-whistle, was placed on the superannuation list, at a yearly allowance of $294.60, to take effect from the 1st of September last, and Mr. James Fox, his son, was appointed in his place, at a salary of $800 per annum, by an Order in Council of the 13th of August, out of which he must pay an assistant.

Mr. David George, keeper of Meagher's Beach Light, was placed on the superannuation list on the 20th of October last, with an allowance of $213.48, and Mr. Edward Horn, keeper of Peggy's Point Light, was transferred to Meagher's Beach, at a salary of $400 per annum, on the 1st of October last, and Mr. William Crooks was appointed keeper of Peggy's Point Lighthouse on the 6th of October last, at a salary of $350 per annum.

Mr. Simon Beaubien was appointed by Order in Council, dated 19th September last, keeper of the lighthouse at Jerseyman's Island, Richmond, in place of Charles Boudrot, resigned, at a salary of $300 per annum.

Mr. A. H. Rand was appointed, by Order in Council of 18th of October last, engineer of the fog-whistle at St. Paul's Island, with a salary of $500 per annum, in place of Mr. Charles Stewart, who resigned that position.

Owing to the isolated and difficult character of the station at Flint Island Lighthouse, Cape Breton, Benjamin Heney, keeper of that station, had his salary increased, by Order in Council, dated 18th of October last, from $400 to $500.

Mr. William Hayden was, by Order in Council, dated 5th November last, appointed keeper of the lighthouse at Gull Rock, Shelburne County, at $400 per annum, in place of Mr. Samuel Hayden, who was unfortunately drowned, with his wife, on the 30th of October last, while proceeding from the Island to the main land.

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Mr. Charles Stalker, keeper of the lighthouse at Shelburne, was, by Order in Council 21st October last, placed on the superannuation list, at an annual allowance of l.

will be seen by the report (Appendix No. 8), of the agent of the Department at that considerable damage was done to the lighthouses and other property be- the Department in Nova Scotia, by the fearful gale which swept over that n the 24th of August last, but the loss to the shipping was felt more severely s of the Government property, as many vessels foundered on that memorable which a large number of lives were lost. Several vessels were also e shores, and the loss amongst coal vessels trading to Cape Breton was very

rn entrance of the Gulf of St. Lawrence has been much improved by the m fog-whistle at St. Paul's Island, which has been in operation for some total cost of the fog-whistle and engine-house at this station was welling-house for the keeper is still required.

k occurred at St. Paul's Island during last season that the Department ometimes happens that wrecks occur on this Island late in the fall, ch may not reach the Department until the following spring. In was the schooner *Ocean Belle*, of Halifax, which went ashore on sland on the night of the second of July last, and proved a total naterial of the vessel were saved.

has been necessary to make some changes, on account of the ighthouse and steam fog-whistle station, as well as a humane the superannuation of the superintendent, Mr Dodd, who was on list on the 1st of September, 1873, with an allowance of the view of trying to make the Island more productive and ise sufficient food upon it for the consumption of the staff , who has been in charge of the farming operations at the of years past, has been placed in temporary charge of the and farmer, with a salary of $400 per annum, and the In consequence of the establishment of two large and d, one at the east and one at the west ends respectively, nnection with them, it has been found necessary to sons, which will be divided as follows :—

be lighthouse keeper) at each lighthouse and steam
ssistants at each station.
en at the main station.
t the East-end station.
station at the foot of the Lake.
tation between the main station and the foot of

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The maintenance of the lighthouses, steam fog-whistles and humane establishments, in the island will, during the current year, not be less than $10,000, but of this amount the British Government contributed the sum of £400 sterling in aid of the establishment on the island, as it is as much for the benefit of the British and American shipping as for the shipping of Canada that this large and expensive establishment is maintained. The number of cattle on the island will probably amount to upwards of 40, and efforts are now being made to improve the breed. In addition to upwards of 30 tame horses on the island, for the purpose of patrolling and keeping up communication between the stations and working on the farm, there are upwards of 200 wild horses, and I would suggest that this number be very much reduced, and that the wild horses should be replaced by cattle. When these wild horses are brought to the mainland they sell readily at from $10 to $30 or $40, and some even higher. The soil being composed principally of white sand, it is found very difficult to obtain any kind of fertilizer which will remain long enough in the ground to be of much service, as the beneficial effects of manure appear to pass off after the first or second year. There is very little produce raised in the island in addition to the small crops raised in the neighbourhood of the stations beyond wild grass and wild peas, on which the cattle and wild horses feed; but as a practical farmer has now been placed in charge of the whole island, and the farming establishments in connection therewith, it is to be hoped that the results will be much superior to anything which has hitherto been effected; and it is probable that before the lapse of another year sufficient provisions will be raised in the island to feed the whole establishment, and thus do away with the necessity of the Department being constantly required to send down provisions from the mainland for their support.

There were only three wrecks on Sable Island last year, namely, the French packet *Stella Maris*, bound from Halifax to St. Pierre, with a cargo of molasses, lumber, flour, &c., which went ashore on the south side of the island during a thick fog on 27th March last. Although the vessel went to pieces, all the hands were saved, as well as a portion of the cargo and materials.

The American fishing schooner *Laura R. Burnham*, of Gloucester, also went ashore on the south side of the island on the 2nd of June last, and although the vessel was wrecked, the captain and crew were saved, as well as a large portion of the sails, rigging, anchors, &c.

The British bark *Humbleton*, of 420 tons register, bound from London to New York, went ashore during a fog on the 25th of September last. The crew were all saved, but the vessel became a total loss.

On the 15th September last, the steamship *Wyoming*, 2,415 tons, while on a voyage from Liverpool to New York, grounded during a thick fog, on the north-east sand bar off this island. She was got off, however, without any serious damage, by throwing a portion of her cargo overboard, and reached her destination with safety, and was repaired in New York at an expense of £400 sterling. A Court of Enquiry was subsequently held at Liverpool, England, by direction of the Board of Trade of London, and the certificate of competency of the commander of the vessel was suspended for six months.

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The Superintendent of this station reported in November last that a small schooner, called the *Zephyr*, of about 30 tons, from St. Pierre Miquelon, drifted ashore on the south side of the island, dismasted. She appears to have been a fishing schooner, and is supposed to have been disabled in July or August last. The bodies of four men were found on board in a very advanced state of decomposition.

A case was also reported to this Department of the brigantine *Minnie Bruce*, which was running at night in the direction of the north-east bar, when the captain observed the light, and thereby ascertained his position, and by shifting his course passed over the bar in 6 fathoms of water; and he reported in the newspapers that had it not been for the light he would in all probability have lost his vessel and all on board.

Reports have reached the Department from various quarters of the great service both these lights are to shipping passing in the neighbourhood, and of the great distances at which the lights have been seen, as it is probable they are two of the most powerful lights on this continent.

During last year a powerful steam fog-whistle was placed at Cape Race, Newfoundland, at the instance of this Department, and at the expense of the British Government, which no doubt will prove of great service to the shipping, more particularly to steamers passing to and from Europe and America. The former charge of one-sixteenth of a penny sterling per ton on vessels passing in the neighbourhood of Cape Race, for the support of the lighthouse there, has been increased to one-twelfth of a penny sterling per ton to meet the increased expenditure connected with the steam fog-whistle. And it is a matter of great satisfaction to this Department that the Government of Canada has, on the recommendation of the Minister of Marine and Fisheries, been the means of establishing powerful steam fog-whistles on some of the most dangerous points on this coast, including Cape Race, Cape Ray, St. Paul's Island, Seal Island, Machias Seal Island, Briar Island, and Cape Fourchu, Yarmouth Harbour, all of which are most dangerous places to shipping approaching the coast; and it is probable that the benefits to be derived from these safeguards and facilities to navigation during thick or foggy weather during certain months of the year, can scarcely be over-estimated. When a powerful steam fog-whistle is erected at Sambro Island, along with the one now under contract at Grand Manan, the security to navigation will be still more increased.

For vessels entering the Gulf of St. Lawrence, by way of the Straits of Belleisle, it has been represented to the Department that an additional lighthouse and a steam fog-whistle are still required at Cape Bald to render the entrance to the straits more speedy, as this route is much used in summer, being much shorter than the southern one for vessels coming from Europe to the River St. Lawrence. Some additional minor lighthouses are also required between Cape Rosier and Matane, on the south shore of the St. Lawrence, in order to improve the navigation of that important highway to the principal cities of the Dominion.

The total cost of maintaining all the lighthouses, buoys, and beacons, and steam fog-whistles in Nova Scotia, and works in connection with them, including the humane establishment at Sable Island, St. Paul's and Scatterie Islands, during the last fiscal year

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was $100,953.80, and the amount voted by Parliament for this service was $103,204.

During the calender year 1873, eight new lighthouses and three steam fog-whistles have been put in operation in the Nova Scotia District, and the total cost expended in Nova Scotia during the fiscal year ended 30th June last, in the construction of new lighthouses and steam fog-whistles, was $90,181.79, while the amount voted by Parliament for this purpose was $76,500. In addition to this amount, a sum of $13,681.79 was brought over from the previous fiscal year, making the total amount available for construction in this Province for the last fiscal year to be $90,181.79.

The total number of persons employed on the 31st December, 1873, in connection with the lights, steam fog-whistles, and humane establishments, was as follows:—

Superintendent of lights	1
Lighthouse keepers and engineers of fog-whistles	85
Persons employed on the humane establishments in addition to the lighthouse keepers and engineers of fog-whistles	27
In all,	113

PRINCE EDWARD ISLAND LIGHTS.

The Island of Prince Edward having joined the Confederation of the Dominion of Canada on the 1st of July last, the cost of the lighthouse service has been defrayed by the Dominion Government since that period. In that colony there are nine lighthouses, with keepers appointed, and paid by the Government, ranging in salaries from $163 to $260; and, in addition to these, there are eight minor or harbour-lights, the keeping of which has hitherto been let at auction by the Government of Prince Edward Island.

An account of the lighthouse and coast service in Prince Edward Island will be found in the returns of this Department for the current fiscal year.

Previous to the resignation of the late Government, Mr. John Corbett was appointed to be the Agent of this Department at Prince Edward Island, and Inspector of Lights and Fisheries, at a salary of $1,200 per annum; and on the formation of the new Government this appointment was cancelled.

It is probable, with the small amount of business which this Department will have in Prince Edward Island, that it may not be considered necessary to have an officer appointed specially for the purpose of attending to it, as there will be very little for him to attend to. In the mean time the salaries of the lighthouse keepers are being paid through the office of the Agent of the Finance Department, which arrangement answers all the purposes required at present.

There a large number of buoys required to be maintained in the harbours of this island, and as soon as harbour-masters shall have been appointed, these officers will be directed to look after them.

The Department has been informed that the lighthouses and lighting apparatus in Prince Edward Island require a large amount of repairs and improvements, and steps have been taken to carry out such repairs and improvements, as may be required,

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although they will involve considerable outlay. A large number of new and improved lamps and reflectors will be sent down there in June next, when a steamer will be sent to deliver supplies, oil tanks, &c. The General Superintendent of Lighthouses will also visit each lighthouse station, and report on the requirements necessary to bring the lights up to the standard of the other lights in the Dominion.

BRITISH COLUMBIA LIGHTS.

In this distant colony the Department has an Agent, with a salary of $1,600 per annum, who also acts as Inspector of Lights, as well as Inspector of Steamboats, under the Canadian Steamboat Inspection Act.

There are only two lighthouses in British Columbia at present in operation, namely, one at Race Rocks, and one at the entrance of Esquimault Harbour, near Victoria, on a rock adjoining Fisgard Island. There is also a lightship stationed in the Straits of Georgia, at the entrance to Fraser River. There are also a number of buoys which the Agent attends to.

A new lighthouse has been built at Cape Beald, near Barclay Sound, facing the North Pacific Ocean, but it is not yet in operation. It will be a powerful revolving white light, and will be put in operation on the 1st of July next. The iron lantern and lighting apparatus have already been sent out there. It will cost when completed upwards of $10,000.

Another new lighthouse is under contract at Point Atkinson, in the Straits of Georgia, near the entrance of Burrard Inlet. The contract for building the tower has been awarded to Mr. Arthur Fenny, for the sum of $4,250. It is being built under the superintendence of the Agent of this Department in British Columbia, but the lighthouse at Cape Beald was built under the superintendence of the Department of Public Works, through its Agent at Victoria.

The number of keepers and assistant-keepers employed by this Department is as follows :—Two at Fisgard Light, four at Race Rocks, and three at Fraser River light-ship, making nine persons altogether.

The number of buoys maintained in this District was thirty-nine, fifteen of which are of iron, weighing nearly a ton each, for the service of the sand-bars of Fraser River; and the cost of maintaining them during the last fiscal year was $1,449.

The cost of the two lighthouses and lightship in British Columbia, was $10,018.93. It will be seen by the accounts in detail in the Appendix that the expenditure in connection with these two lighthouses and light-ship was very heavy, and very much more expensive than similar lights in other parts of the Dominion.

In addition to the salaries received by the lighthouse keepers in British Columbia, the Government has hitherto been in the habit of providing them with board, which is a very expensive mode of maintaining the lights not adopted in other parts of the Dominion. Keepers of lights can maintain themselves much more economically than the Government can, and this practice should be changed as soon as practicable.

The total cost for maintaining and repairing the two light-houses, the light-ship,

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buoys, and beacons in this Province, for the fiscal year ended the 30th of June last, was $13,207.09, and the amount voted was $16,562.

OIL.

The oil required for the use of the lighthouses of the Dominion, for 1871, 1872 and 1873, was purchased from Messrs. F. A. Fitzgerald and Co., of the Union Petroleum Company, London, Ontario, the tenders of that firm having been the most advantageous for the Government. Last year the tender of that firm was at the rate of twenty-two and three-quarter cents per gallon for the oil required to be delivered at Halifax and St. John; twenty cents at Quebec; eighteen cents at Montreal; seventeen and a half cents at Hamilton; and sixteen and a half cents at Sarnia.

The description of oil supplied to the Department last year was generally satisfactory, although in some exposed stations, where the cold was severe, some complaints have been received as to its quality, and in some cases the barrels shewed symptoms of leaking The oil was required to be of the best quality, standard white, non-explosive, at a vapour test of 110 degrees of Fahrenheit's thermometer, (being five degrees above the legal standard,) with a specific gravity of forty-four degrees of Baume's hydrometer, at a temperature of sixty degrees of Fahrenheit's thermometer. The agreement made with that firm was only for last year, although the Department had the option of making an agreement either for one, or two or three years. The arrangement made for the oil was a very satisfactory one for the Department, as the Refining Companies of Western Canada had combined to keep up the price of oil, and the oil supplied to this Department was at a very much cheaper rate than was being supplied by the combination of Companies. It is probable, however, as the combination is now broken up, that it might be advantageous in the interests of the Government, to invite public tenders for the supply of oil for the next season or three seasons, as may be found advisable. The quantity obtained from Messrs. Fitzgerald & Co. last calendar year was 28,407 gallons for Nova Scotia; 5,282 gallons for lighthouses on the south shore of New Brunswick; 22,435 gallons for the lighthouses below Quebec, in the Gulf of St. Lawrence, Straits of Belle Isle, and the north shore of New Brunswick; 25,297 gallons for the Trinity House, Montreal, and the lighthouses above Montreal; making a total of 81,421 gallons delivered.

In the fall of the year an additional quantity of 14,098 gallons of oil was purchased at St. John, New Brunswick, from Messrs. Mitchell & Co., Montreal, and is now stored there ready for the early delivery of oil supplies to lighthouses in the Bay of Fundy, in Nova Scotia and New Brunswick. The price paid was 24 cents per gallon in bond, and 29 cents duty paid.

No oil was sent from this side of the Dominion to British Columbia, but a supply of sperm oil was sent out from England for the use of the lights there, as arrangements have not yet been made for using refined petroleum oil in that district. The agent recommends the use of dogfish oil in the lighthouses there, which can probably be procured at 50 cents per gallon, but I would recommend that in any new lighthouses which may be built in future the same description of lamps be used as are used in the lighthouses on this side of the Dominion, which are made for burning refined petroleum oil, as such

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lamps and oil are more economical and give a better light than any other description of lamps and oil.

For the ensuing year it is probable that 75,000 gallons will be required.

DOMINION STEAMERS.

There are seven steamers under the control and management of this Department, four of them sea-going steamers, namely:—The *Napoleon III*, screw-boat; the *Druid*, paddle-wheel; the *Lady Head*, screw, and the *Sir James Douglas*, screw; one river steamer, the *Richelieu*, paddle-wheel, and two small river police steamers.

The *Napoleon* and the *Druid* are generally stationed at Quebec, for service in the River and Gulf of St. Lawrence; the *Sir James Douglas* at British Columbia; the *Richelieu* at Montreal; and two small river police steamers at Quebec.

Last year the *Napoleon* made two trips to the Straits of Belle-Isle, besides several trips down the River and Gulf of St. Lawrence, and along the north shores of New Brunswick as far as Shediac. On these occasions she carried oil, gunpowder, fuel and other supplies for the lighthouses. She is an excellent sea-going boat, and the Department has to depend on her for performing the service of supplying the lights at a distance in the Straits of Belle-Isle and Gulf of St. Lawrence, as well as assisting any vessels in distress.

Early in the season the *Druid* was employed supplying lighthouses on the river, and attending to the buoys; but in the early part of the summer the gunpowder magazine was taken out of her and her cabin fitted up with state rooms, for the convenience of His Excellency the Governor General and Suite, who wished to make an official visit to the Lower Provinces.

Both the *Napoleon* and the *Druid* were in the Gulf of St. Lawrence during the terrific gale of the 24th and 25th August last, which caused such disastrous loss to the shipping on the coasts of the Maritime Provinces.

The *Lady Head* has been stationed, during last year, in the Halifax and New Brunswick Districts, where she has been employed in attending on Sable Island, and supplying the lighthouses in Nova Scotia and New Brunswick; but as the number of steam fog-whistles has been so much increased of late, I would recommend that the Department should purchase a sailing vessel of not less than 200 tons register, nor more 300 tons than for the purpose of carrying coal to the different stations where it is required, and to the different lighthouses on the coast. The Department had, a few months ago, purchased the schooner *Ella G. Maclean*, of St. Andrew's New Brunswick, measuring 78 tons register, for $6,000, and as she has been found to be altogether too small for the service, she will be replaced by a vessel of much larger tonnage, as the amount of coal to be delivered this season will be from 1,500 to 2,000 tons, and a vessel carrying less than 300 tons could not get through the work during the summer season.

The screw-steamer *Sir James Douglas* has been employed in British Columbia, principally on the east coast of Vancouver's Island, carrying mails, passengers and freight between Victoria and Nanaimo, Comox and intermediate places, and also between Victoria

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and Sooke. She is very much in need of repairs, and will not be able to continue in this service without such repairs, due notice of which has been given to the Post Office Department. Her expenditure during the last fiscal year was $15,984.72, and the total receipts on account of passengers and freight was $8,088.07, in addition to which she carried the mails, for which service the Post Office contributed the sum of $7,130. The receipts in this case evidently contain some arrears of subsidy from the Post Office for carrying the mails.

The expenditure for the *Napoleon* and *Druid*, during the fiscal year ended 30th June last, was $51,758.05, and for the *Lady Head*, $24,999.57.

STEAMER "RICHELIEU."

The steamer *Richelieu*, which was formerly employed by the Trinity House, Montreal, before it was abolished, received a thorough repairing last summer, at a very considerable cost, and as this Department had no particular use for her, she has been loaned to the Harbor Commissioners, Montreal, who have undertaken to manage her, and at the same time to return her to the Department, or give up the use of her at any time when required.

The total cost of maintenance and repairs of this steamer, for the fiscal year ending the 30th June last, was $8,059.47.

In addition to the small screw-steamer *Dolphin*, used by the River Police of Quebec, another small steam yacht was purchased by the late Minister of Marine, for the sum of $1,210, and is now stationed at Quebec for the service of the River Police, in case it might be required at any time for special service.

METEOROLOGICAL OBSERVATIONS.

This system, combined with weather telegraphy, is as yet in its infancy in Canada. In the United Kingdom, under the auspices of the Meteorological Committee of the Royal Society of London, it has made great progress of late years, as well as in the United States of America. Not only the citizens of that Republic, but also many of the people of the Dominion of Canada living on the sea-board, have much reason to appreciate highly the efforts made by the Government of that country to develope this science, and render it of practical use and benefit, not only to the marine interests of this Continent, but also to many portions of the interior of the country, where weather signal stations have been established. In the United Kingdom, where it is managed by a committee of the Royal Society, composed of eight of its Fellows, who are gentlemen of high scientific attainments, and who receive no remuneration for their services, this science has also been of great service to the marine interests of this country by the publication of weather signals to warn sea-faring people of the approach of storms. The amount voted by the British Parliament has, however, been comparatively small, viz.: £10,000 sterling per annum, as compared with the cost in the United States where the expenditure on account of this service has been about $400,000. It has been found more convenient in the States to manage it through the War Department, which has many stations and forts scattered

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throughout the country with highly intelligent educated officers to make the observations, thus securing an efficient staff of observers at a very moderate cost.

It has only been in operation in Canada as a Government branch of the public service for the last two or three years, and during the fiscal year ended 30th June, 1871, the small sum of $5,000 was voted and expended for this purpose, while for the year ended 30th June, 1872, $10,000 was voted and expended, and for the current fiscal year the sum of $37,000 was voted. As the observations become more valuable by being continued over a series of years, it is probable that it may be considered advisable to continue this service on its present scale until further information is obtained as to its practical utility for the general interests of the Dominion; and Professor Kingston, who has been acting as the Chief Director of the system in Canada, appears to be of opinion that it could not be carried on efficiently with a less sum, as a large portion of the amount alluded to would have to be expended in telegraphing information to and from the chief office in Toronto.

There are twelve stations which report by telegraph three times a day to Toronto, and the information thus collected is, after examination, despatched to Washington, and in return the authorities in the States furnish daily reports of the state of the weather, and give notice of anticipated storms to the Director at Toronto, but it is expected that in future this officer will be able to make up his reports from information derived from weather reports from the States, and partly from information furnished by our own stations without waiting to hear from Washington as he does at present.

As the system has not yet been fully matured, and as considerable time has hitherto generally elapsed in communicating with ports in the Lower Provinces by way of Toronto, and sending them notices of approaching storms, it has not worked so satisfactorily as the Department could have wished; but in order to remedy this, it is probable that the head-quarters of the Meteorological System will have to be moved to Ottawa, that it may be under the more immediate supervision of the Department, and arrangements may probably be made for sending notices of approaching storms to ports in the Lower Provinces direct from Washington, Boston, or Portland, by which much time will be saved, as in sending them such a distance around by Toronto it is very difficult to get the messages passed promptly over the wires, even although all the officers of the staff at Toronto and other places are at their respective posts, and are using every possible exertion in furtherance of the object desired. Up to the present time it has been organized and worked by Professor Kingston at Toronto, with little or no direct control from this office, which, however, is held responsible by Parliament and the public for the efficient administration of the system, and the economical and judicious expenditure of the large amount of money voted for this purpose. It is probable, however, that the head-quarters of this branch of the public service will have to be removed to Ottawa in order that the expenditure may be better controlled and the system rendered more efficient, as the desired results in connection with the predicting of storms do not seem to have been yet attained.

It will be seen from the report of the Director that it was much to be regretted

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that no telegrams were received from Washington or issued from Toronto giving warning of the disastrous storm which took place in the Gulf of St. Lawrence and around the coast of Nova Scotia on the 24th of August last; but he explains that the storm was exceptional in its character, and did not, like the generality of storms, give at western stations any indications of its approach. By reference to the report of the Director it will be seen that arrangements have been made for displaying storm signals at thirty-three stations in the Dominion. The storm drum at present in use at most of the stations is a cylinder about four feet in diameter, and formed by strips of wood or iron which are seperated at intervals of about two inches, and at night a white light is usually placed within the drum when occasion arises for using it.

I regret to add that Dr. Smallwood, who has been connected with the Meteorological System under the supervision of this Department for the last two or three years, died at Montreal in December last. Dr. Smallwood took a great interest in this subject for many years before a meteorological system was established by the Government, and his meteorological reports have been much valued by scientific men. He was paid out of the amount voted by Parliament for this service, at the rate of $500 per annum, and it has been arranged that Mr. C. H. McLeod, of the MacGill University at Montreal, will conduct the meteorological observations for the present, until some permanent arrangement shall have been made.

Previous to the first of July last Professor Kingston received no remuneration from the Government for performing the arduous duties connected with the organization of such a large and important branch of the public service, as he has been for a number of years in receipt of a salary from the Dominion Government of $2,040 per annum as Director of the Magnetic Observatory at Toronto; but since the first of July this Department has allowed him at the rate of $1,000 per annum as remuneration for his services in connection with the direction of the meteorological system of the Dominion, in addition to his regular salary.

A reference to Professor Kingston's report in the Appendix No. 27 will shew the different items of expenditure on account of this service, amounting altogether to the sum of $10,000 for the year ended 30th June, 1873. The cost of the Central Office without any allowance for the Director, was $1,954. The cost for superintendance and assistance of the chief stations was $2,100. For similar assistance at the telegraph stations it amounted to $2,356. For telegraph weather reports $1,662.54, and for the purchase of instruments and other sundry expenses, $1,927.46. During the current year however, the expenditure will amount to $37,000, but the system is now conducted on a very much larger scale than it was formerly.

OBSERVATORIES.

There are two observatories and time-ball stations in the Dominion, maintained exclusively by the Dominion Government, and under the supervision of this Department. At Quebec, Commander Ashe, formerly of the Royal Navy, is Director, and receives a salary of $1,402, while his assistant receives $600. For this branch of the public service the sum of $2,400 has been voted annually; and in addition to the salaries of the Director

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and his assistant, there are other contingent expenses which amounted in all last fiscal year to $2,400. At this observatory, near the Citadel at Quebec, the time is given regularly to the shipping at one o'clock, p.m., during the season of navigation, and in addition to giving the time to the shipping for the purpose of rating their chronometers, Commander Ashe has also taken much interest in celestial photography, and has succeeded in making some very fine pictures on the subject. He also works in connection with Professor Kingston of Toronto, and furnishes him with meteorological observations taken three times a day.

A storm drum has also been erected on the top of the Laval College, from which storm signals will be exhibited on information being received from the Director at Toronto.

The residence formerly occupied by Commander Ashe, on what was known as the Bonner Farm, near the Citadel, having become very much deteriorated, a new observatory and dwelling-house for the Director has been erected on the site of the old dwelling-house and observatory, for which the sum of $5,000 was voted by Parliament some time ago. The building is nearly completed, and he will be able to occupy it this summer. It has been erected by the Department of Public Works.

An observatory has also been maintained under the management of the late Dr. Smallwood at Montreal for some years past, and the sum of $500 has been allowed to the Doctor for the last two years out of votes made by Parliament for meteorological observations. This report will be found in Appendix No. 25, from which will be ascertained the variations of temperature, illustrating the climatic changes occurring in Montreal, the direction and velocity of the wind, the amount of cloudiness, and the atmospheric pressure. He also corrected and rated ships' chronometers, and furnished three times a day the Central Meteorological Observatory at Toronto with the observations required for that branch of the public service. As already mentioned, Dr. Smallwood died in December last, and the duties formerly performed by him in connection with this service will now be undertaken by Mr. C. H. McLeod.

The only other observatory and time-ball maintained by the Dominion is at Saint John, New Brunswick, at which the time is also given every day (Sundays excepted) at one p.m., and is under the management of Mr. George Hutcheson, who is the Director of it. It was formerly situated at Fort Howe, about a mile from the Custom-house, but it has recently been removed to the roof of the Custom-house, where it will be much better seen by seafaring people as well as by the inhabitants of the city. The Director receives an annual salary of $500, and which, with the sum allowed to the keeper of the building and other contingencies, amounted altogether to $636.61. The sum of $1,000 was voted for this service, leaving a balance of $363.39 unexpended.

The sum of $1,500 was voted by Parliament to be expended during last fiscal year for an Observatory at Halifax, but no part of this sum has as yet been expended, as it has not been ascertained that it was really required at that port.

IMPROVEMENT OF HARBOURS.

Under the Act 32 and 33 Victoria, cap. 40, power was given to the Governor in

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Council to impose a duty of 10 cents per ton on vessels arriving in such harbours in New Brunswick, Nova Scotia, and Quebec as were proclaimed to be under the operation of this Act, with the view of reimbursing the Government for contemplated improvements at such harbours, which might be considered to be more local than for the general interests of the navigation of the Dominion, or for harbours of refuge. When the Act was passed it was not intended to be made compulsory at any ports, but only to be made operative at such ports where applications might be made to the Government by parties interested in their navigation to make improvements, and to impose the tax alluded to. The only ports which have been proclaimed under the operation of this Act, are Bathurst and Richibucto, in New Brunswick; House Harbour, Amherst Harbour, in the Magdalen Islands; and the Port of Cape Chatte, in the County of Gaspé, and Province of Quebec. The amount collected at the ports referred to, on account of this service, for the year ended 30th June, 1873, was as follows:—

Bathurst, 52 vessels, 8,198 tons	$819 80
Richibucto, 99 vessels, 18,789 tons	1,878 90
House Harbour, 22 vessels, 782 tons	78 20
Amherst Harbour, 41 vessels, 1,414 tons	141 40
Cape Chatte Harbour (District of Gaspé), 11 vessels, 584 tons	58 40
Total	$2,976 70

The amount collected for the year ended 30th June, 1872, on account of this service, was $2,256.70; for the year ended 30th June, 1871, $3,571.90; and for the year ended 30th June, 1870, $3,524.60.

No improvements have yet been made under this Act at the harbour of Bathurst since the commencement of the operation of the Act. An account of the improvements which have been made at the other harbours alluded to during the last fiscal year, will be found in the report of the Department of Public Works, which carries on all such works as may be ordered by the Government, and the amount expended on these harbours last fiscal year was $7,909.33, namely:

At Richibucto	$3,125 70
Amherst	4,783 63

The sum of $3,125.70 expended at Richibucto, includes the sum of $2,000 paid in aid of a steam tug established at Richibucto to facilitate vessels coming into the harbour and going out of it over the bar; as also $1,000 paid on account of a contract for removing a wrecked steamer which was obstructing the channel. The sum of $2,000 was also paid in aid of a steam tug established at Miramichi, to facilitate the navigation of that river, but no tax under this Act has been levied on shipping entering the Miramichi River.

Some work has also been done at Richibucto Harbour in connection with its improvements, an account of which will be found in the report of the Department of Public Works. Much improvement has also been effected at the entrance of Amherst Harbour, Magdalen Islands, at which there was a dangerous rock, which has been taken away, so

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that there is about ten feet of water over it at the lowest tide, and from 12 to 13 feet over it at high water. Formerly there was only five feet of water over this rock at low tide, but now with the addition of four buoys on each side of the channel to guide vessels in, the harbour at present forms a complete place of refuge for fishing vessels or other small craft. In this harbour there are sometimes 200 or 300 fishing vessels—British and American—taking refuge there. Some dredging, however, is still required at Sand Point, inside of the rock, to make the entrance more easy. At House Harbour some dredging was done last August by the Government steam dredge *Canada*, which remained at that place three weeks; but inasmuch as she could only work three or four hours a day at high water, a large amount of dredging still remains to be done in order to render the harbour available during heavy weather. There is only about nine feet of water in the channel leading into this harbour at high water, and from six to seven feet at low water; but it is proposed to dredge the sand away until there will be ten feet of water at low tide. This will occupy the dredge about three months to complete it.

The total expenditure under this Act, during the four last fiscal years, was $19,480.08, while the receipts during the same period were $12,329.90, leaving an excess of expenditure over receipts of $7,150.18.

Nothing was expended at Cape Chatte Harbour, Gaspé, during last fiscal year.

HARBOUR AND RIVER POLICE.

At two of the principal ports in the Dominion, namely, at Montreal and Quebec, a Water Police Force is maintained during the season of navigation, for the purpose of preserving order among the shipping and about the wharves. Under the Act 31 Victoria, chapter 62, a tax of three cents per ton is imposed on vessels visiting these ports. Vessels of 100 tons and under pay once a year, and vessels over 100 tons pay twice a year. The duties at each of these ports are very different; the force at Quebec being very much engaged on the water, visiting the shipping in the harbour (which is very extended), and conveying deserters back to their ships, and bringing sailors on shore in their boats when any difficulty has occurred on board. At Montreal, where the vessels lie close together at the wharves, they have no boat duty to perform, but simply to preserve peace on the wharves and among the shipping. For many years past it has been found very difficult at Quebec to preserve order among the shipping, and to control the crimps, who made a business of going on board vessels lying at anchor in the stream and at the wharves, and enticing the sailors to desert, and even in some cases taking them away forcibly; and through a laxity of the law, and in the mode of administering it, it was found difficult to detect and punish the crimps, who made their living by this nefarious traffic. At the port of Montreal, however, where very little crimping was done, the duties of the River Police were more like those of the ordinary City Police, as they were not required to go much afloat. At Quebec they have two steam yachts and four boats, and during the season of navigation there is constant employment for the force. In addition to the ordinary duties connected with the preservation of order in the harbour, a

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boat is furnished to the Harbour Master whenever he requires to visit vessels lying at anchor in the stream, or at the different wharves in the neighbourhood of the city. At this port the River Police Force was, as usual in former years, organised on the 1st of May, 1872, and continued on duty up to the 30th of November of that year, when they were discharged for the season. On the 1st of May, 1873, they were again re-organised and continued on duty till the close of navigation. During the season of 1872 the force consisted of a Chief, at $1,200 a year, who also acted as Shipping Master; a clerk, at a salary of $800 per annum; a steersman for the steamer, at $2.20 per day; three coxswains, at $1.80 per diem; a detective attached to the shipping office, at $2 per diem; and 26 constables, at $1.50 per diem. There was also an engineer for the River Police steamer *Dolphin*, making the total number of the force, including the Chief, to be 34 persons employed up to the 30th November, 1872.

On the opening of navigation, in the spring of 1873, it was deemed advisable, with the view of affording more protection to life and property in and about the harbour and wharves of Quebec, to make a large addition to the strength of the force, and, if possible, to prevent a repetition of the outrages perpetrated by the crimps at that port during the season of 1872; and when the force was organized on the 1st of May, 1873, it was largely increased, making the total number of persons employed in it, including the Chief, to be 49, with the following rates of pay :—

1 Chief of Police and Shipping Master, at $1,200 per annum.
1 Clerk, at $800 per annum.
1 Assistant to the Chief of Police, at $2.40 per day.
1 Steersman, at $2 per day.
5 Coxswains, at $1.70.
38 Constables, at $1.50.
1 Engineer for Police Steamer, at $50 per month, and
1 Assistant, at $40 per month.

The sum of ten cents per diem was deducted from the wages of the steersman, the coxswains and the constables, to be paid to them at the close of navigation, in the event of their conduct during the season being such as to meet with the approbation of the Department.

The total amount expended at Quebec in connection with this branch of the Public Service during the fiscal year ended 30th June, 1873, was $18,200, while the dues collected for the same period amounted to $20,542.96, shewing an excess of receipts over expenditure of $2,342.96. This expenditure included clothing for the men, as well as their pay, and the maintenance of the River Police Steamer and other disbursements. The amount expended during the previous year was $10,348, showing an excess of expenditure in the fiscal year ended 30th June, 1873, as compared with the previous year of $7,852, which increase is owing to the advanced rate of wages paid, and the large addition made to the force, with the view of preserving order, and preventing the crimps putting the law at defiance.

At Montreal the force numbered 25 men, including the Chief, and they were also

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provided with official summer and fall clothing. Neither the force at Montreal nor Quebec are retained during the winter months on pay. Four of the sergeants of the Montreal Police Force are usually retained through the winter months, and it is probable that the principal portion of the pay of these four sergeants who have been employed this winter watching Government property and stores at the canal, under the Department of Public Works, will be defrayed by that Department, so that nearly all the pay of these sergeants this winter will be saved to the River Police Fund. During last fiscal year, the Chief was paid at the rate of $3 per diem; sergeants, at the rate of $1.90; and constables, $1.50 per day. During last winter the four sergeants were retained as usual during the whole of the winter months, engaged in protecting and watching property in the canal. The force at Montreal was employed from the 22nd April to 30th November, 1872; commencing again on 1st May, 1873, and working till the end of the fiscal year, namely, on 30th June, 1873, and subsequently to the close of navigation. The total cost of the force at Montreal during last fiscal year, including clothing for the force, rent, fuel, light meals for prisoners and other contingencies, was $14,453.87, but some of this was for debts contracted during the previous fiscal year, and which could not be paid at the time as the amount voted fell short of the expenses incurred.

The amount of Harbour Police dues collected at Montreal during last fiscal year was $6,075.54, showing an excess of expenditure over its receipts of $8,378.33.

The total amount expended at Quebec and Montreal, during last fiscal year, in connection with this service, was $32,653.87; and the amount voted on account of the same service, was $33,000, leaving a balance of $346.13 reverting to the treasury.

The total amount collected during the same period, namely, $26,618.50; on being deducted from the amount expended, namely, $32,653.87, leaves an excess of expenditure over receipts of $6,035.37.

The receipts and expenditure on account of this service during the five years ended 30th June last, were as follows:—

	Receipts.	Expenditure.
For fiscal year ended 30th June, 1869.....	$21,952 83	$22,358 91
" " " 1870.....	23,996 68	18,461 83
" " " 1871.....	21,235 06	17,400 73
" " " 1872.....	27,215 80	20,348 00
" " " 1873.....	26,618 50	32,653 87
	$121,018 87	$111,223 34
Deduct expenditure from receipts.....	111,223 34	
Excess of receipts over expenditure during the five years ended 30th June, 1873.....	$9,795 53	

SICK AND DISTRESSED MARINERS.

There are two classes of mariners belonging to sea-going vessels which are taken care of and provided for by the Government of Canada, under the following mentioned circum-

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stances, viz. :—Those who are found sick or disabled at any of the sea-going ports in Canada, and those who belong to Canada and to Canadian ships, the owners of which reside in Canada, and those who have been shipwrecked and have become distressed either on the shores of Canada or abroad, and who require assistance or clothing until they can reach their homes in Canada.

A small tax of two cents per ton, for the purpose of defraying the expenses of such sick or distressed mariners, is imposed on all vessels entering any of the ports in Quebec, New Brunswick, Nova Scotia, Prince Edward Island or British Columbia, from any port or place not in the same Province, but vessels entering the Province of Quebec from ports in Ontario are not liable to this tax. Vessels of 100 tons or less only pay once a year, while larger vessels pay twice a year.

Previous to 1870 shipwrecked or distressed seamen, belonging to Canadian vessels, found in destitute circumstances abroad, were taken care of and assisted by the British Government from a fund voted by the Imperial Parliament for the relief of distressed British seamen abroad ; but for some years past this service has been provided for by the Canadian Government, on satisfactory proof being adduced that such distressed mariners were Canadians anxious to return to Canada, and belonging to Canadian registered ships owned by Canadians. Owing to the rapid increase of shipping belonging to Canada trading to all parts of the world, and many of our vessels being wrecked or lost abroad, the demands on the Sick and Distressed Mariners' Fund have become very heavy, and it is not probable the Fund will be self-sustaining any longer unless an additional tax is imposed to what is at present.

The bills for medical attendance at the outports are also becoming very heavy, and at some such ports the charges for providing for sick seamen are much larger than the amount of dues received. It is the intention to erect, or purchase, marine hospitals at Sydney, Pictou, Yarmouth, Sackville and Dalhousie, which, together with those already in existence at Quebec, St. John, St. Andrew's, Miramichi, Richibucto and Bathurst, will make the number of marine hospitals owned by the Dominion Government to be eleven, which will much reduce the difficulty of providing for sick or disabled seamen. At Montreal and Halifax, arrangements are in existence by which all sick or disabled seamen are provided for at the general hospitals of these cities, and their expenses paid by this Department. At small ports where there are no hospitals established, the Collectors of Customs are required, by the Act relating to sick mariners, to provide for such mariners in some public or private house, and to procure for them necessary medical or surgical assistance.

At Charlottetown a house has been rented and a marine hospital established since the 1st July last, when the Colony of Prince Edward Island joined the Confederation, and the necessary steps will require to be taken at the next Session to extend to that island the operation of the Sick and Distressed Mariners' Act and amendment.

The sum of $25,000 was voted by Parliament at its last Session for the erection of marine hospitals at Sydney, Pictou and Yarmouth, Nova Scotia, and the sum of $12,000 for similar institutions in the Counties of Charlotte, Westmoreland and Restigouche.

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The sum of $25,000 was also voted for a marine hospital at Victoria, British Columbia, which is now under contract, and will soon be ready for the reception of patients. At St. Andrew's the marine hospital was totally consumed by fire on the 7th September, 1872, but the sum of $1,400 was insured on it, which was subsequently paid, and a new hospital is now in course of construction at that place, and will be much superior to the one which was burned down. A house and grounds have been purchased at Sackville for the purpose of being converted into a marine hospital for that district, and will soon be fit for the reception of patients. None of the other projected hospitals have yet been built, however, but arrangements are now being made for their erection.

The total amount collected on account of this branch of the public service, during the fiscal year ended 30th June, 1873, was $37,136.08, against $34,911.64 collected during the previous year, shewing an increase on last year over the previous one of $2,224.44. Some little discrepancy appears between the amount collected as here shewn, which is made up from the returns of the Collectors of Customs, and the amounts actually paid in to the Receiver General, owing to the fact that at some of the ports the amounts collected near the close of the fiscal year are sometimes not paid in till after the commencement of the next fiscal year. Of the total amount collected during last fiscal year, the Province of Quebec contributed $18,305.57, New Brunswick $8,022.76, Nova Scotia $10,305.37.

At the Port of Quebec the amount of shipping arriving during the season of navigation is much larger than at any of the lower ports which are open during the whole year. The sea-going tonnage which arrived at the principal seaports in the Dominion during last fiscal year was as follows, viz:—At Quebec, 734,937 tons; at Montreal, 307,453 tons; at Halifax, 372,985 tons; and at St. John, 406,442 tons.

At the Port of Quebec the sick mariners to be taken care of are much more numerous than at any of the other ports in the Dominion, and they are provided for at the Marine and Immigrant Hospital, which is one of the finest institutions of the kind in Canada. It is open to three classes of patients, viz: sick and disabled seamen, sick immigrants who have fallen sick after leaving Grosse Isle (the quarantine station of the River St. Lawrence), or who have become sick since their arrival at Quebec, and residents of Quebec; but under the last-mentioned head, residents of Ontario who might happen to be taken sick in Quebec, such as lumbermen or others, are all made welcome within its walls. It is very carefully and economically managed by three commissioners, of whom Professor Sewell, M.D., of the Laval University, is chairman, with Dr. Wells as their secretary. Complaints have, however, been made from time to time on account of there being such a large staff of paid officers in connection with it, although their salaries are not large. The paid staff consists of three commissioners, a secretary, three visiting physicians, a house surgeon, two chaplains, a matron, nurses and servants. There is also one resident medical student (sometimes two), who receives no remuneration for his services.

The amount expended on account of this hospital during last fiscal year was $21,000, being the exact amount voted by Parliament; but owing to the increase of prices of fuel and other necessary articles for the hospital, it was found that this amount was

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not sufficient, and a number of bills had to be paid out of the vote for the following year. Of this amount, the sum of $4,000 was paid by the Quebec Government for the care and maintenance of residents of Quebec. The amount contributed by paying patients during last fiscal year, was $175.25, and the amount of receipts from other sources was $258, making the total amount of receipts, from all sources, to be $4,433.25, which amount was deposited to the credit of the Receiver-General of Canada. The amount contributed by the Dominion Government, therefore, on account of this hospital, during last fiscal year, was $16,566.75, which includes the cost of maintaining sick emigrants as well as sick mariners. The total number of patients treated, during the last fiscal year, in this hospital was 893, making 14,985 days in hospital. Of this number 595 were mariners, having 9,098 days' treatment; 113 were emigrants, having 2,056 days' treatment; and 185 were residents, having 3,831 days' treatment. By apportioning the total cost of maintaining the hospital among these three classes, it will be found that the mariners cost $12,750.19, residents $5,368.81, and emigrants $2,881. The average cost of maintaining the patients in this hospital during last fiscal year, was $9.81 per week. Owing to the fact that the residents did not pay a fair share of the cost of maintaining the hospital, the actual cost of maintaining the sick mariners at Quebec was $13,866. At Montreal the sick mariners are treated and taken care of in the General Hospital of that city, under an arrangement with the directors of the hospital, at the rate of $4.20 per week. The number treated during the last fiscal year was 343, and the amount paid to that institution was $2,701.20.

The amount paid by the Department, during last fiscal year, for the treatment and maintenance of sick mariners in the Province of Quebec (exclusive of the amount paid for the Marine Hospital, Quebec), was $3,719.18, which includes the amount paid to the hospital at Montreal, and for the maintenance of sick mariners at the outports, to which should be added the actual cost of maintaining the sick mariners in the hospital at Quebec, viz., $13,866, making altogether the sum of $17,585.18 for the treatment of sick and disabled seamen in that Province.

The amount paid on account of shipwrecked and distressed seamen in the Province of Quebec during last fiscal year, was $199.32, making a total of $17,784.50 disbursed by the Government on account of sick, disabled, shipwrecked and distressed seamen in that Province. This amount does not include any moneys paid by this Department to the British Government on account of distressed seamen belonging to ships registered in Quebec. The amount of sick mariners' dues collected in the Province of Quebec during last fiscal year, was $18,305.57, which would leave an excess of receipts over expenditure of $520.50, after providing for all sick and distressed seamen in that Province who were entitled to relief.

The amount expended on account of sick and disabled seamen in New Brunswick during last fiscal year, was $6,638.33, and for shipwrecked and distressed seamen, $972.43, making altogether a total expenditure of $7,610.76 for sick and distressed seamen in that Province, while the amount of dues collected for the same period was $8,022.76, showing an excess of $412 of receipts over expenditure. Of the amount expended, $3,461.35

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was disbursed on account of the marine hospital at St. John; but owing to the appropriation having become exhausted, expenses incurred to the extent of about $1,000 towards the close of the last fiscal year had to remain over unpaid until the commencement of the present fiscal year.

The receipts at the port of St. John for the last fiscal year amounted to $4,807.80, which would show an excess of receipts over expenditure of $346.45, if all the debts of the hospital had been paid previous to the close of the fiscal year. In addition to the expenditure in New Brunswick, however, a considerable sum had to be remitted to the Imperial Board of Trade, on account of expenses incurred abroad for distressed crews belonging to New Brunswick vessels.

The expenditure on account of the marine hospital at St. Andrews was $435.53; at Richibucto, $329.30; at Miramichi, $1,068.86; and at Bathurst $209.60. Some additional expenses were incurred at some of these places, but as the vote was exceeded, they had to remain unpaid until the commencement of the present fiscal year.

The amount expended at all the other ports in New Brunswick, at which there are no marine hospitals, was $1,133.69.

At Halifax, where the sick mariners are maintained and treated in the Provincial and City Hospital, the amount paid for their care during the last fiscal year, was $2,235.89. The rate charged by that institution was $5 per week for each patient.

There are no other hospitals at present in Nova Scotia, but at the different ports where sick mariners are found, they are taken care of under the directions of the Collectors of Customs. The amount expended at the outports amounted to $6,501.33, making the total expenditure on account of sick mariners in Nova Scotia $8,737.22.

The amount expended on account of shipwrecked and distressed seamen in Nova Scotia, was $3,012.31, making the total expenditure on account of sick, disabled, distressed and shipwrecked seamen, $11,749.53, while the amount collected in that Province during last fiscal year was $10,305.37, making an excess of expenditure over receipts of $1,444.16. This excess was still farther increased by the expenses of many shipwrecked and distressed seamen abroad belonging to Nova Scotia vessels, which were first paid by the Imperial Board of Trade and then reimbursed to them by this Department. The total amount remitted to the Board of Trade during last fiscal year was $3,200.19.

The total expenditure by this department on account of sick, disabled, shipwrecked and distressed seamen during last fiscal year, including the sum of $500 voted by Parliament to the hospital of St. Catherines, Ontario, for the purpose of providing for sick seamen, was $27,150.43. To this amount should be added the cost of maintaining and treating seamen in the Marine and Emigrant Hospital at Quebec, viz., $13,866, making the total expenditure of this branch of the Public Service during last fiscal year to be $41,016.43.

Deducting the amount collected from shipping at the sea-going ports, on account of this service, namely, $37,136.08, from the amount expended, viz., $41,016.43, leaves an excess of expenditure over receipts of $3,880.35.

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The amount of receipts and expenditure in connection with this service during the last five fiscal years, was as follows:—

				Receipts.	Expenditure.
For fiscal year ended	30th	June,	1869.....	$31,353 78	$26,987 04
"	"	"	1870.....	31,410 46	27,029 34
"	"	"	1871.....	29,683 41	28,978 22
"	"	"	1872.....	34,911 64	38,947 60
"	"	"	1873.....	37,136 00	41,016 43
				$164,495 29	$162,958 63
Deduct expenditure from receipts				162,958 63	
Balance to the credit of the fund.....				$1,536 66	

CERTIFICATES TO MASTERS AND MATES.

Under the Imperial Merchant Shipping Colonial Act, 1869, power was given to Her Majesty in Council, to declare that certificates of competency granted in certain British Colonies should be recognized by the British Government to be of the same force as if they had been granted by the Board of Trade in England; and under the Canadian Act 33 Vict., chap. 17, which was specially confirmed by Her Majesty in Council, power was given to the Canadian Government to institute examinations of candidates for certificates of competency as masters and mates, and if found duly qualified in undergoing such examinations as have been provided for by Order in Council, certificates of competency could be granted to them accordingly.

These examinations are conducted by a Board of Examiners at Halifax, St. John, and Quebec, of each of which boards Captain Scott, R.N., is chairman, and he moves about from place to place as he is required. By this system a uniformity of examination is secured, as every one of the certificates must be signed by the chairman, who is held responsible for the efficiency of the examinations, which are similar to those held in the United Kingdom. The principal number of examinations take place at St. John, New Brunswick, some at Halifax, and very few at Quebec.

In order to keep up the schools for naval instruction at Quebec, as there are so few candidates there, it was found necessary to subsidize Messrs. McNally and Seaton, who have been naval instructors for some time past; and they now receive at the rate of $1,500 per annum, on condition that they keep up schools of instruction at each of these three places; but as there is considerable competition in the instruction of naval candidates, it will probably not be necessary to pay any further subsidies at St. John or Halifax beyond this year. The agreement under which these gentlemen receive this annual subsidy will expire on the 31st day of October next.

The number of candidates who have passed successfully, and obtained certificates since the commencement of the operation of the Act, namely, since 16th September, 1871, up to 31st December, 1873, was 369, and the amount paid for these certificates at the rate of $10 each, was $3,690. Of this number 117 passed at Halifax, 225 at St. John, and

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27 at Quebec. During the same period 70 mates passed and received certificates of competency, and the amount paid, at the rate of $5 each, was $350. Of this number 15 passed at Halifax, 18 at St. John, and 37 at Quebec. The number of masters who passed during the calendar year ended 31st December last was 134, and mates 24.

Certificates of service for masters and mates who are unable or unwilling to undergo the required examinations, and who were masters and mates previous to 1st January, 1870, are also granted under the Act alluded to. These certificates of service enable the holders of them to clear their vessels in Canada, but they are not recognized in the United Kingdom, as no examination is held as to the candidates' qualifications, all that is required being evidence of their sobriety, experience, and general good conduct on board ship. The fee charged for these certificates is $5 for masters and $3 for mates, and the number of certificates issued during the year ended 31st December last was 236 for masters, and 82 for mates.

The total number of certificates of service issued since the commencement of the Act, up to 31st December, 1873, was 510 for masters, and 155 for mates.

The combined amounts of fees received on account of certificates of competency and service, during the fiscal year ended 30th June, 1873, was $4,963, and for the six months ended 31st December, 1873, $1,366, making the total amount received on account of this service, up to the close of 1873, $7,673. The amount expended for this service, including the salary of chairman, travelling expenses, printed forms, pay of the local members of the Board, and aid to naval instructors, for fiscal year ended 30th June, 1873, was $6,466.18, while the amount voted by Parliament was $7,000, leaving an unexpended balance of $533.82, which reverted to the Treasury.

The total receipts from certificates to masters and mates, from the commencement of the Act, up to the 31st December, 1873, was $7,673, and the total expenditure was $14,402.92, leaving a large excess of expenditure over receipts, which was in a great measure owing to the large sums paid to the naval instructors for preparing candidates for examination.

A list of the successful candidates who obtained certificates of competency, during the half year ended 30th June last, will be found in the Appendix.

The chairman receives $1,600 per annum for his services, and the local members of each of the Boards receive $4 per diem, when engaged in the duties of the Board. A clerk is also allowed to the chairman and Board, who keeps the office open at Halifax (the chairman's head quarters), and he receives a salary of $800 per annum.

The following statement shews the receipts and expenditure on account of this service since the commencement of the Act:—

	Expenditure.		Receipts.
From 1st March to 30th June, 1871, (preliminary expenses).....	$1,410 45	...	Nil.
For fiscal year ended 30th June, 1872 .	4,312 07	...	$13,44
Do do 1873 .	6,466 18	...	4,963
	$12,188 70	...	$6,307

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Deduct receipts from expenditure	6,307 00
Leaving a balance of expenditure in excess of receipts of.....	$5,881 70

STEAMBOAT INSPECTION.

Under the Steamboat Inspection Act and its amendments, allsteamers registered in Canada, if running or navigating in our waters, must be annually inspected by a Government Inspector, whose duty it is to see that they are safe, as regards their hulls, boilers, machinery, and outfit, including boats, life-preserver, &c.

In the Dominion of Canada there are seven Inspectors, who are engineers, and who devote themselves to this duty, being paid salaries by the Government for it, while in British Columbia the Agent of the Department, who is not a professional engineer, performs this service, which however is not very onerous as yet in that section of the Dominion. The fees from steamboats are collected by the customs officers, while the fees for examining engineers are collected by the members of the Board, and paid over to the Receiver General by the chairman.

The receipts from this branch of the public service are larger than are necessary to defray the expenses of inspection; and there was, on the 30th June last, the close of the fiscal year, the sum of $18,504.37 put to the credit of the fund in the hands of the Government, which had accumulated during the five years ending on that day. The Inspectors have, however, been dissatisfied with their remuneration for some time past, and have been applying for an increase of salary. When the Act was first put in operation, it was doubtful whether the fees would be sufficient to cover the expenses, and the salaries were consequently fixed at a very low figure. The chairman at present receives $1,400, with $300 for clerk hire; the Inspector at Montreal $1,200, the Inspectors at Toronto and St. John $1,000, and the Inspectors at Kingston, Sorel and Quebec, $800 each.

The Agent of this Department at British Columbia receives a salary of $1,600 per annum, for performing all the duties required of him in connection with this Department including the inspection of steamboats; but as the Department has only three lights in operation there, with two new ones, which will shortly be ready for lightings he has ample time for the performance of this service without interfering with his other duties.

The amount received puring the last fiscal year, on account of the inspection of steamboats and licenses to engineers, was $15,412.75, while the expenditure was $11,205.54, shewing an excess of receipts over expenditure of $4,207.21. The fees chargeable on steamers for their inspection and certificates, are as follows:—For every steamer not exceeding 100 tons burthen, $5; and for every steamer over

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100 tons burthen, $8; in addition to which there is a charge of ten cents a ton, irrespective of size. The amount voted by Parliament for last fiscal year was $13,250, while the amount expended was $11,205.54, leaving an unexpended balance of $2,060.46, which reverted to the Treasury.

The amount of receipts paid into the Receiver General, on account of this fund, as shewn in the Public Accounts, does not agree with the amount actually paid into the Collector of Customs, to whom the dues are payable, as some of these officers hold balances over from the close of the fiscal year until the commencement of the next one.

The chairman of the Board, Mr. Samuel Risley, along with Mr. Walter J. Meneilley, Inspector, attends to the duties of the western section of Ontario, including Toronto Lakes Erie and Huron. Mr. Taylor takes from Port Hope to the eastern portion of Ontario, including Kingston. Mr. Burgess, who was appointed on the 7th day of July, 1873, and passed his examination in August last, takes the Montreal division and the River Ottawa. Mr. Befort takes the Sorel and Three Rivers Division, Mr. Samson the Quebec Division, and Mr. William M. Smith the Provinces of New Brunswick, Nova Scotia, and Prince Edward Island.

In Manitoba no provision has yet been made for inspecting steamboats, although during the last fiscal year the sum of $70 was collected in that Province under the Act.

The Steamboat Inspection Act, which came into operation in British Columbia on the 1st January, 1873, was found to be difficult to carry out efficiently, on account of the steamboats there not having been originally built in accordance with its requirements. An Act was passed by the Legislature on the 3rd May, 1873, to suspend the operation of the Steamboat Inspection Act in that Province, till the 1st of June, 1874, in order to enable the steamboat owners there to equip their boats in accordance with the Act, and at the same time to give the engineers in that district an opportunity of qualifying themselves to pass an examination and obtain certificates.

During the calender year ended 31st December, 1873, the Board issued 824 certificates to engineers and assistant engineers, which is much in excess of any previous year.

The number of steamers inspected during the calendar year of 1873, in the West Ontario Division, was 177; in the East Ontario Division, 83; Montreal, Division, 83; Three Rivers, 48; Quebec, 75; Nova Scotia and New Brunswick, 88.

The total number of steamers inspected during the last calendar year was 554, with a gross tonnage of 92,298 tons, and 56,487 tons register. Of the 554 steamers inspected, 272 were paddle steamers; 282 screw boats; 223 passenger steamers; 72 freight steamers; and 259 tug steamers.

During the last calendar year there were added to the list of steamers in Canada,

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eighty-five new steamboats; and estimating the value of each of these steamers at $20,000, a very moderate calculation, it would give the sum of $1,700,000 as the value of the addition to our steam marine during the last calendar year. During the same period, there were twenty-one steamers, making 2,574 tons register, broken up, lost, or taken out of service.

The number of steamers inspected, and engineers examined and granted certificates, during the last five years, was as follows, viz. :—

	No. of Steamers.	No. of Engineers.
During 1868	350	340
do 1869	401	516
do 1870	403	501
do 1871	438	625
do 1872	473	741
do 1873	554	824

The loss of life by accidents, in connection with the steamboats in the inland waters of the Dominion, during last calendar year, was twenty-four, which is much larger than usual, owing to the heavy loss of life by the burning of the steamer *Bavarian*, by which accident twenty persons lost their lives, of whom six were passengers, three of them being ladies. The cause of the burning of this steamer appears, from the report of Mr. Risley, Chairman of the Board of Steamboat Inspectors, who was appointed to hold a court or tribunal to make enquiry as to the cause of her burning, to have been the breaking of her walking beam, which smashed through the saloon and fell on some casks of high wines, or strong spirits, which were stowed near the boiler, on the main deck, breaking the barrels, and allowing the spirits to run over the deck and into the hold, where they immediately took fire, and burnt the vessel. When the vessel was on fire, it appears by the report, that the pilot was to blame in making off with a life-boat, which was supposed to be capable of holding twenty-five persons, while there were only nine in it. Some blame is also attached to the first mate for not going round the vessel with his boat, and trying to save some of the passengers and crew.

This accident has caused some excitement among persons interested in the lake navigation; and it seems necessary that some amendments should be made in the Steam boat Inspection Law, so as to increase the size or number of boats carried, and make provision for lowering them readily, and training the crew to handle them quickly in case of accident. Some provision is also necessary to prevent spirits or other dangerous goods being stowed near the boiler.

Many persons have also urged this Department to procure legislation, by which the masters and mates of steamers and other vessels trading on the coasts and lakes of Canada might be prevented from acting as such masters or mates until they had each passed an examination, and procured a certificate of competency or service from the Government; and it is probable that some additional legislation will become necessary, providing for more boats, fire-pumps, fire-extinguishers, additional hose, training and exercising crews

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in lowering and handling the boats at least once a week; and for the examination of masters and mates of vessels running on the inland waters and on the coast.

The steamer *Pictou* which left Quebec for Pictou on the 15th of November last, with twenty-nine persons on board, has been lost, and all of the crew and passengers have no doubt perished. It is generally supposed that she took fire somewhere in the neighbourhood of Prince Edward Island, and burnt to the water's edge.

The tug-steamer *St. George*, while lying at a wharf in the Harbour of St. John, New Brunswick, exploded her boiler, by which accident the engineer lost his life. The cause of the explosion was not found out.

There were also a number of minor accidents, but which were not attended with loss of life.

The receipts and expenditure on account of this service, including the receipts from fees for engineers' certificates for the last five fiscal years, were as follows:—

	Receipts.		Expenditure.
For the fiscal year ended 30th June, 1869...	$11,914 63	...	$7,999 00
do do do 1870...	12,521 29	...	7,399 18
do do do 1871...	10,369 96	...	8,321 00
do do do 1872...	11,710 43	...	8,500 00
do do do 1873...	15,412 75	...	11,205 54
	$61,929 06	...	$43,424 72
	43,424 72		
Balance in the hands of the Government to the credit of the Fund	$18,504 34		

SHIPPING MASTERS AND SHIPPING OF SEAMEN.

There were only three Ports in the Dominion up to 30th June, 1873, at which shipping masters were appointed, namely: Quebec, St. John and Halifax. At Quebec, the shipping master is also Chief of the River Police, and receives a salary of $1,200 per annum for the performance of the duties of both offices. At Halifax, the shipping master receives all the fees collected in his office as remuneration for his services, out of which he must defray all his expenses, such as office rent, assistance, stationery, &c. He is authorized, under the Act which was in operation in Nova Scotia last year, to charge 50 cents for shipping each seaman, and 30 cents for discharging each seaman.

The shipping master at Halifax was appointed to the office on the 7th October, 1872. He shipped during the year ended 31st December, 1873, 3,137 men, for which he received 50 cents each, making the sum of $1,568.50; and the number of men he discharged was 2,024, for which he received the sum of 30 cents each, making the sum of $607.20, in all a total sum of $2,175.70, out of which he had to deduct his expenses, viz.: $1,201, leaving a balance, as remuneration to himself, of $974.70.

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At St. John the shipping master receives no salary, but has to depend upon the fees of his office for remuneration. During the fiscal year ended 30th June, 1873, he shipped and discharged 4,957 men at 50 cents each, making the sum of $2,478.50; out of which he paid for his assistant and incidental expenses, $1,298.88, leaving him, as the net proceeds of his office, $1,179.62. The number of seamen shipped and discharged during the previous fiscal year was 3,962, shewing an increase of 995 men in the operations of last year. This increase to the business of the office was owing to the large increase of tonnage at the port and the high rate of wages, inducing seamen from the United States to seek employment at St. John. The shipping master also reports that wages for the year have been unusually steady, averaging $25 for the month, and $55 for the run to Europe.

At Quebec the rate charged for shipping seamen was $1 for each man; but ships registered in Quebec under the old law were exempted from paying any fees. The total number of men shipped paying fees was 1,834, making the sum of $1,834; amount of fees received from 560 seamen discharged, $271.27; and the amount of fees received for 346 certificates under the Imperial Act, $173; making the total receipts of his office, $2,278.27, from which was deducted $182.78 for disbursements, leaving a net balance of receipts from his office of $2,095.49, which sum was duly deposited to the credit of the Receiver-General.

At Pictou Mr. Malcolm Campbell was appointed shipping master on the 30th May, 1873, under the Act which was then in operation; and it appears by the returns which he made on the 31st December, 1873, that the gross proceeds from the fees of his office was $550.30, and the expenditure on account of his deputy and other expenses was $210, leaving a net balance to him for the half year of $340.

Mr. William A. Kenny was appointed shipping master for the Port of Liverpool, Nova Scotia, on the 30th May, 1873, under the Act which was then in operation. The receipts of his office for the half-year ended 30th December, 1873, amounted to $271.80.

Mr. J. H. Wade was appointed shipping master at the Port of La Have, Nova Scotia, on the 22nd October, 1873, but it was too late in the season for him to transact any business of his office when his appointment reached him, and he collected no fees up to the 31st December, 1873.

Mr. William Young was appointed on the 22nd October, 1873, to be shipping master at Lunenburg, Nova Scotia, under the Act which was then in operation. The total receipts of his office, from the date of his appointment to 31st December, 1873, were $14.40. They ought to have amounted to a larger sum, but he states that he experienced some difficulty in collecting the fees, arising from the ship-owners not recognising the system at the outset.

There were several other shipping masters appointed in Nova Scotia on the 3rd November, 1873, but their appointments were subsequently cancelled by the Government which came into power on the 7th November, 1873.

During last session of Parliament, a comprehensive Act was passed respecting the shipping and discharging of seamen in the maritime Provinces of Canada, containing one

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hundred and twenty-eight sections, and it was reserved by His Excellency the Governor General for the Royal Assent, as it was a subject affecting Imperial Legislation relating to shipping, and after it had been duly submitted to Her Majesty, the Royal Assent was given to it on the 20th November, 1873, and proclamation will shortly be made of it in the *Canada Gazette*, setting forth the particular day on which it is to come into operation. In this Act there are no exceptions made, with reference to the shipping of seamen, in favor of foreign ships, unless the country to which they belong has some treaty with Her Majesty to exempt them.

The fee which is chargeable under this Act for the shipping of seamen is 50 cents for each person shipped, and 30 cents for the discharging of each seaman.

Some of the provisions of this Act are very stringent, as it was found necessary to provide such restrictions by law as would suppress, if possible, the abominable practice of crimping which has grown to such enormous proportions in Quebec. Under the old system, the lives of sailors, and even of the officers of the ships, were frequently in danger, owing to the determination of crimps, at all hazards, to go on board and steal the crews away from the vessels which visited the Port. I believe, however, that the law is now stringent enough to put down this practice, which has so long been prevalent in Quebec, provided it is thoroughly and efficiently carried out; and the duty will devolve on this Department to watch the working of the Act, and to see that it is vigorously enforced.

At Quebec and some other ports, seamen shipping on board foreign vessels were not formerly required to be shipped through the Government Shipping Office, but were only shipped before the Consul of the country to which the ship belonged; and consequently, if a seaman deserted from any ship it was not necessary for him, when looking for employment, to appear before the Government shipping master, by whom he would be very liable to be detected, but he could be shipped before some foreign Consul, and get on board a foreign vessel, and thus successfully desert from his own ship, escape detection, and get back to Europe, at an advanced rate of wages, as it was impossible for the Canadian Government shipping master to exercise any control over men who were shipped in other offices. All this has been stopped now by the Act, and sailors of all kinds wishing to ship at any ports in Quebec, Nova Scotia, New Brunswick or British Columbia on board either British, Canadian or foreign vessels in the foreign trade, must be shipped by the Government shipping masters, whose duty it is to detect deserters. But these arrangements will not prevent a seaman wishing to ship in a foreign vessel from going before the Consul of the country to which the ship belongs, and being shipped by him according to the laws of his country, and signing the articles before such Consul. A provision has also been made setting forth that it shall be the duty of the shipping master, before hiring or shipping any seaman whom he has reason to suspect of having deserted from his last ship in Canada within the previous six months, to require such seaman to produce his certificate of discharge from his last ship, or give other satisfactory proof that he was properly discharged from his last ship. The shipping master is also authorized to employ all lawful means in his power to prevent, so far as he can, the effecting before him of any engagement of a seaman whom he has reason to suspect

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of having deserted from his last ship. This provision will give great additional power to the shipping master in checking desertion, and it is probable the object of the Act will be successfully attained if the shipping master does his duty efficiently.

A provision has also been inserted in the Act authorizing the shipping master to provide means for placing seamen, who have been engaged for any ship, on board such ship, if requested by the owner or master to do so; the expense of such service to be defrayed by the person wishing his services in this respect. This will save much trouble to the ship-owners and masters.

SHIPPING.

As mentioned in the last report of this Department, the laws relating to the registry and measurement of shipping were quite different in Ontario from any of the other Provinces of the Dominion, as the shipping in that inland Province was registered under the Canadian Act, similar to the old Imperial Registry Act, which was in force in the British Dominions before the 1st May, 1855. I am not aware of the reason why this Act was allowed to remain so long on the Statute Book, as the Imperial Merchant Shipping Act of 1854, section 17, provided that the second part of that Act, (relating to the registry of British ships) shall apply to the whole of Her Majesty's Dominions.

A Bill was therefore prepared by this Department, repealing the Inland Canadian Act for the registry of shipping, and substituting therefor the Imperial Merchant Shipping Act of 1854, with its amendments, and it was passed by the Canadian Parliament during last session and reserved by his Excellency the Governor General for the Royal Assent, as it was a subject connected with Imperial legislation relating to shipping.

It received the Royal Assent on the 20th November, 1873, and will probably be in force in Canada about the end of March, after it has been duly proclaimed in the *Canada Gazette*. This Act is divided into four parts: the first, relating to the measurement and registration of ships, under the Imperial Act; the second, relating to small vessels without decks, or vessels with decks not exceeding ten tons, which would not be required to be registered under the Merchant Shipping Act; the third relates to the security for advances on ships in course of construction. This part of the law provides for a system by which a person can advance money on a ship while under construction, and obtain proper security for it, and it will no doubt tend to render it much more easy for persons building vessels to obtain advances on easier terms than formerly. The fourth part of the Act relates to the inspection and classification of ships, and enables the Governor in Council to make rules and regulations for such inspection and classification whenever he may deem it advisable to do so, and to publish them in the *Canada Gazette*. The intention of this part of the Act was to inaugurate a system by which a national classification of the shipping of Canada could be established, which would command as much weight and confidence as any existing classification, not only amongst ship-builders and ship-owners of this country, but also amongst the under-writers of the United Kingdom and other countries visited by Canadian shipping. At present, there are several private institutions in existence for the classification of ships, but the two principal ones which

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are in operation in this country are British Lloyds and Bureau Veritas, of France, commonly known as French Veritas, or French Lloyds.

At Quebec and Prince Edward Island, the principal number of vessels built for the British and Foreign trade is inspected for classification by surveyors of British Lloyds; but, in Nova Scotia and New Brunswick, ship-builders do not seem to have availed themselves to a large extent of the services of the surveyor of British Lloyds. In these two Provinces, nearly all the new vessels built over 150 tons are inspected and classed by the officers of French Bureau Veritas, and both the institutions alluded to have rendered great services to the shipping of Canada. In the opinion of many, however, the time has now arrived when Canada, which is one of the principal ship-owning countries in the world, should possess a national institution of its own for the classification of its shipping; and if such an institution existed under the management and control of the Government, there is no doubt that it would be largely supported by the ship-builders and ship-owners of Canada, as soon as they ascertain that its classification and status is recognized in the United Kingdom and in other countries where the shipping of Canada is largely engaged in the carrying trade. In order to make it successful, however, the inspection would require to be of the most thorough description, and the mercantile community would have to be convinced that it will not be exceeded by any other institution, and that the classification could only be obtained on the merits of the ship to be classed. It would also be advisable to put the classification fees at as small a rate as possible, in order that the owners of many small vessels which are now running without any classification could avail themselves of all the benefits of the institution, and obtain a class for their vessels at a small rate. It is possible also that a better grade could be given to the wood of Canada, without detracting from the quality of the vessel, than the other institutions would be willing to give; both the institutions alluded to having their head-quarters in other countries, and being perhaps unwilling to alter their rules to suit the wood of this country.

In order to make a national institution of this kind successful it would be essential to make the inspection of the Government Inspectors entirely optional, leaving those builders who are partial to either of the other institutions to choose whether they would have their vessels inspected and classed by the officers of such institutions or by the officers of the Government of Canada.

A very general impression prevails that some kind of compulsory inspection will be adopted soon by the British Parliament for all British and British Colonial vessels as a measure of safety for the prevention of accidents and the saving of life and property; and if the time ever should arrive when such compulsory Government inspection and classification of Canadian ships in England should take place, there cannot be a doubt that the British Government will recognize any Government inspection and classification of Canadian ships made in this country as equal to any inspection by officers of the Government in England; and in the event of any Canadian Registry of Shipping being established in this country, it may be the means of saving our shipping from all the expense connected with their re-examination in England.

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No returns have ever been made of the quantity of shipping registered in the Dominion of Canada as it now exists, but a clause was inserted in the Act which was passed by the Canadian Parliament last Session requiring every registrar of shipping in Canada to forward a return to the Minister of Marine of all existing ships remaining on his registry on the 31st December in each year; but as the Act is not yet in operation it is not probable that the returns can be received and made up in time to be laid before the next meeting of the Legislature.

The quantity of tonnage registered in the four Provinces of Canada, namely, Nova Scotia, New Brunswick, Quebec, and Ontario, on the 1st July, 1867, was 776,743 tons, and the quantity of tonnage owned by persons in the Dominion as made up by the officers of the Census Bureau from census returns taken in 1871, was 857,203; but until the returns are made up in this office, which will be in the course of a few months, it is impossible to state accurately what is the registered tonnage of the Dominion at the present time; but I am of opinion that it will be found as near as possible to be about 950,000 tons. Some persons have supposed that Canada is the third greatest ship-owning country in the world, and others again have been under the impression it ownedthe fourth largest commercial marine in the world, but such is not the case. The tonnage of the United Kingdom for 1873, including her colonies, was 7,944,520 tons. If we deduct from this amount about a million and a half tons as the tonnage of her colonies, this would leave the tonnage of Great Britain alone to be about six and a half millions. The registered tonnage of the United States on the 30th June, 1873, employed in the foreign trade, was 1,423,288 tons; enrolled vessels employed in the coasting trade at the same date, 3,116,373 tons; licensed vessels under 20 tons, employed in the coasting trade, 46,847 tons; fishing vessels, enrolled and licensed, employed in the cod and mackerel fisheries, 109,518 tons; making a total of registered, enrolled and licensed vessels, belonging to the United States of America, on the 30th June last, of 4,696,026 tons.

The united countries of Norway and Sweden come next on the list, and is the third greatest ship-owning country in the world, the amount of tonnage owned by these united countries being as follows:—

	Tons.
Norway	1,178,779
Sweden	380,736
Total	1,559,515

Italy comes next on the list, the seagoing tonnage of which is 1,211,077, making her the fourth largest ship-owning country in the world.

After Italy comes Germany, which has 1,098,846 tons, making that country the fifth largest ship-owning country in the world.

France comes next on the list, and owns 1,084,824 tons, making her commercial marine the sixth largest in the world.

Next comes Canada, which owns nearly one million tons of seagoing and lake shipping, making her the seventh largest ship-owning country in the world.

After Canada comes Spain, which owns 678,886 tons, making her the eighth largest ship-owning country in the world.

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The following countries come next in point of commercial marine, and rank as follows, namely:—

	Tons.
Netherlands	469,967
Austria	420,268
Russia	415,266

WRECKS.

The year 1873 has been a very disastrous one both for life and property on the coasts of Canada.

The wreck of the ocean steamer *Atlantic* on a rock, about fifty yards distant from Meagher's Island, in the County of Halifax, Nova Scotia, on the 1st April, 1873, will long be remembered as one of the most disastrous wrecks which ever occurred on the North American coast; for not only was the vessel and nearly all the cargo a total loss, but on that fearful night, or rather morning, when the sad event took place, 545 souls were swept into eternity—many of them with scarcely a moment's warning. The vessel struck the rock nearly square on, about fifteen minutes after three o'clock on the morning of the day alluded to. In a few minutes after the vessel struck, several hundreds of the passengers and crew reached the deck, but the vessel having swung round and heeled over with her deck nearly perpendicular and facing to seaward, many of the poor helpless passengers were washed off by the fearful seas which swept over her, and as she soon filled with water, those under deck were drowned, without a chance to struggle for life. From the position of the vessel it was found impossible to lower the boats and render them available for saving life, and no assistance reached the vessel from the shore till some time after the accident had happened. The result of this frightful disaster was, as already stated, a loss of 545 persons out of 957 people on board. This steamship was one of the "White Star" Line running between Liverpool and New York, and was probably one of the finest ocean steamers that ever left the United Kingdom. She was owned by the Ocean Steam Navigation Company of Liverpool, was an iron vessel, built at Belfast in 1871, and measured 3,707 tons, gross measurement, and 2,366 net or register tonnage. Her engines were 600 horse power; length, 420 feet; breadth, 40 feet 9-10ths; depth, 31 feet; and her value when new, was about £100,000 sterling. Her commander was Capt. James A. Williams, who had a certificate of competency as extra Master, and three of the four Mates on board held certificates of competency as Masters.

Immediately after the intelligence of this disaster was received by this Department the Dominion Government steamer *Lady Head* proceeded to the wreck for the purpose of rendering any assistance possible and bringing the rescued passengers to Halifax; and on the recommendation of the Minister of Marine, Mr. E. M. Macdonald, the Collector of Customs at Halifax, was appointed to hold a Court or Tribunal under the fifth section of the Act 32 and 33 Vict., cap. 38, to investigate into the cause of the disaster, and he called to his assistance Captain P. A. Scott, R. N., an officer of this Department, and Captain George A. McKenzie, a retired master mariner of much experience, and both of these gentlemen concurred with him in the decision which he rendered. The Commissioner's Report will be found in Appendix No. 38. The Court censured the captain severely for his conduct previous to the disaster, but commended the praiseworthy and energetic

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efforts made by him to save life after the vessel struck, and in consequence thereof, imposed the mitigated penalty of suspension of his certificate for two years. Mr. Brown, the fourth officer, was censured for want of vigilance, and for violation of the captain's orders, who directed that he was to be called at twenty minutes to three o'clock, and for this his certificate was suspended for three months. The cause of the disaster appears to have been a westerly current setting off the Nova Scotia shore, as the ship struck some twelve or thirteen miles to the westward of where Captain Williams thought he was steering for, which was a little to the eastward of Halifax Harbour. If due and proper vigilance had been used by heaving the lead and looking out for lights and land, the true position of the steamer might have been ascertained in time to prevent this disaster.

Soon after the wreck, and while Parliament was in Session, the Government, on the recommendation of the Minister of Marine, placed in the Supplementary Estimates the sum of $3,000 for the purpose of defraying expenses in connection with the burial of the bodies recovered from the wreck, and for providing coffins, &c., and for conferring rewards on the Rev. Mr. Ancient and the other inhabitants in the vicinity of Prospect Cape, who rescued and provided for the persons saved. This amount was voted accordingly, and has nearly all been expended in the service for which it was intended. A handsome gold watch, valued at $120 and $500 in money was presented by the Dominion Government to the reverend gentleman alluded to for his noble and humane exertions in rendering assistance on the occasion referred to; and a gold watch of the same value was presented to Edward Ryan, Esq., J.P. for eminent services rendered on the same occasion. The sum of $1,560 was also distributed amongst a number of persons who assisted the passengers and crew at the time of the wreck, and who afterwards took care of them by providing board and lodging. Such of the bodies as were recovered from the wreck were decently buried, and the expenses thereof were paid from this vote. A small supplementary vote will probably be necessary to defray the expenses of burying bodies recovered some time after the wreck occurred, and for properly covering the ground with earth where the bodies are buried.

Another fine ocean steamship, the *City of Washington*, was also lost during last year on the coast of Nova Scotia, but fortunately without any loss of life. She belonged to the Inman Line, was 18 years old, built of iron at Glasgow, 2,870 tons gross, 1,951 tons net or registered tonnage, propelled by a screw, with engines of 460 horse power. She left Liverpool for New York on the 24th of June last, and from the 27th of that month till 1.15 p.m. on the 5th of the following month, when she went ashore on the reefs off Little Point Ebert in the County of Shelburne, she appears to have been enveloped in a thick fog, and to this cause and the neglect of the master to take soundings when passing over the Grand Banks of Newfoundland, and the deviation of the compass, may be attributed the loss of this steamer. A Court of Enquiry was held on this case by Captain Scott, R.N., under an Order in Council, and the master's certificate of service was suspended for one year. As the accident occurred in broad daylight, near the main land and in fine weather, the boats were promptly lowered, and the passengers and crew, amounting in all to 576 persons, were safely landed.

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Another fine ocean steamer, the *Wyoming*, struck on the 15th September last on the north-east sand bar of Sable Island, as already alluded to in this report. The weather being favorable, no loss of life occurred, but a portion of the cargo had to be thrown overboard.

The new barque *Commissioner*, 399 tons, of Pictou, N.S., bound from Pictou to Bermuda with a cargo of coals, foundered during a heavy gale on the 21st August last by which ten lives were lost.

In January last the American steamer *George S. Wright*, 341 tons register, bound from Oregon to Sitka, U.S., is supposed to have stranded somewhere on the British Columbia coast in a snow storm and all on board perished; supposed to have been thirty persons. A British man-of-war from Victoria, B.C., went in search of her but could find no trace of her.

The barque *James W. Elwell*, 796 tons, of St. John, N.B., chiefly owned by Messrs. Troop & Son of that city, while on a voyage from Swansea to Valparaiso with coals, took fire and was burned, by which casualty ten persons lost their lives.

The British barque *Thornhill*, 663 tons, of Fleetwood, twenty-five years old, left Quebec in November last for Liverpool, with a cargo of timber, and owing to the early setting in of winter, and the severity of the weather, was driven on the Manicouagan Shoals, in the neighbourhood of the lightship and fogwhistle, and all on board except one were drowned. By this disaster seventeen persons lost their lives. Captain Connell, of the Manicouagan Lightship, did all in his power to rescue the crew of this vessel, but did not succeed, owing to the ice and heavy weather; and he came near losing his own boat's crew. He is of opinion that had the Lightship been fitted with a screw, he could have saved the lives which were lost.

Several of the vessels engaged in the coal trade were lost during the gale or hurricane of the 24th and 25th of August last, which appears to have raged with terrific violence along the south east coast of Nova Scotia, round Cape Breton, and throughout the whole of the Gulf of St. Lawrence. Several of the wrecks were attended with loss of life. Three of the crew of the American fishing schooner *E. S. Smith* were lost on the 24th of August last at the Magdalen Islands, by the stranding of that vessel.

The schooner *Lizzie Irvin*, of St. John, N.B, 172 tons, bound from Cow Bay, C.B., to St. John, is supposed to have foundered during the hurricane of the 24th of August last, and all hands, seven in number, were lost.

The schooner *Messenger*, of Halifax, N.S., on a voyage from Margaree to Prince Edward Island, foundered on the 24th of August last, and the crew, numbering seven persons, were lost.

The schooner *Native*, of Sydney, C.B., 113 tons, from Sydney to Halifax, foundered on the 24th August last, and the crew, seven in number, were lost.

The schooner *Rambler*, of Miramichi, while off Miramichi Bay, on the 24th of August last foundered, and the crew, numbering three persons, were lost.

The schooner *Tyro*, of Halifax, was lost on the 25th August last near the Magdalen Islands, and the crew, ten in number, were lost.

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The schooner *Vernon*, of St. John, N. B., while on a voyage from Boston to Sydney, C. B., was lost on or about the 24th of August last, and the crew, six in number, were lost with her.

The steamer *Pictou*, of Quebec, left that port for Pictou, N.S., on the 15th of November last, and has not since been heard of. She was a wooden vessel, eleven years old, measured 544 tons registered tonnage, and was valued at $46,000. There is now little doubt but that she took fire in the Gulf of St. Lawrence about the 18th of November, somewhere between Cape Rosier and Prince Edward Island, and that all on board, numbering twenty-nine persons, perished.

While the barque *Venture*, of Sydney, C. B., was lying at Factory Wharf, North Sydney, she was stove in during the hurricane of the 24th August last, by which six persons lost their lives.

The brig *Volant*, of St. John, N.B., was driven from her anchors by the gale of the 24th August last, and went on shore at North Sydney beach, and six of her crew were drowned.

The American fishing schooner *Vanguard* was stranded at Amherst Harbour, Magdalen Islands, on the 25th August last, by which six of the crew were drowned.

The British steamer *Saltwell*, while on a voyage from London to Sydney, C. B., foundered off Scatterie, N.S., and six of the crew were lost.

The barque *Neried*, of St. John, N.B., 563 tons, while on a voyage from Philadelphia to Liverpool, about the end of July last, foundered, and the crew, thirteen in number were lost.

The schooner *Mischief*, of Miramichi, while off Miramichi Bay, on or about the 24th August last foundered, and all on board, three in number, were lost.

The schooner *Maria Emma*, of Quebec, on a voyage from Newfoundland to Quebec, was wrecked in Rock Bay, Newfoundland, on the 8th November last, and all on board, nine in number, were lost.

The British steamer *Medway*, of London, 1,189 tons register, 1,846 gross, was wrecked, on the 6th September last, on the north point of Ferrol Ledge, Newfoundland, in the Straits of Bellisle, while on a voyage from Montreal and Quebec to London, and seven of the crew were drowned. The vessel and cargo proved a total loss.

The schooner *Memento*, of St. John's, Newfoundland, was lost in the Bay of Fundy, while on a voyage from St. John, N.B., to the United States, and the crew, seven in number, were lost.

The schooner *Good Intent*, while on a voyage from Briar Island, in the Bay of Fundy, to Arichat, C.B., was lost on the 25th August last, and the crew, seven in number, were lost.

The schooner *Ellen*, of Arichat, laden with coal, on a voyage from Sydney to Halifax, took shelter, during the great gale of the 24th August in the Straits of Canso, and while at anchor there went down, and the crew, seven in number, were lost.

The schooner *E. & F. Williams*, of St. John, N.B., laden with coal, from New

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Caledonia, C.B., to New York, foundered at sea about the end of June last, and the crew, five in number, were lost.

The barque *Belvidere*, of La Have, C.B., while on a voyage from Philadelphia to Trieste, in November last, foundered at sea, and four of the crew were drowned.

The schooner *Arnica*, of St. John, N.B., while on a voyage from St. John to Vineyard Haven, U.S., was upset, and three of her crew were drowned.

The ship *Asteriana*, of St. John, N.B., which sailed on a voyage from Rangoon to Liverpool in the early part of last year, has not since been heard of, and it is supposed that about thirty persons were lost with her.

The paddle-wheel steamer *Northern*, of Liverpool, 1,622 tons gross tonnage, 905 tons register, while on a voyage from Quebec to the lower ports in the Gulf, was stranded on the Island of Orleans, below Point St. Lawrence lighthouse, on the night of the 11th June last; and Mr. Tetu, the Master of the Trinity House, Quebec, and myself were appointed by an Order in Council a Court or Tribunal to investigate into the cause of such wreck. A copy of my report on the subject will be found in the Appendix, as also a copy of Mr. Tetu's report, differing from me in certain particulars. In my opinion the pilot was to blame in keeping the vessel too close to the Island of Orleans, more particularly when he knew she was a difficult vessel to steer and did not answer her helm promptly.

It will be seen by the list of wrecks of sea-going vessels, that many of our small craft under 150 tons, were lost during last season. As such vessels are seldom classed either in English or French Lloyds, and are frequently overloaded for heavy weather, it is probable that if such vessels could obtain a classification at a small cost, such as is proposed to be charged for classification in the contemplated Canadian Register, it might be the means of inducing a better class of vessels to be built, with better equipments and ground tackle than at present, and might possibly be the means of saving life and property. If port wardens were appointed at the coal loading ports, whose duty would be to see that vessels did not go to sea too deeply laden, it might also be the means of saving life and property.

In the case of vessels carrying grain from Montreal to Europe previous to last year, the law was not sufficiently stringent, and although prohibited by the Port Warden, such vessels in some cases would pay the penalty of $40 imposed by the Statute, and proceed to sea without his certificate. The result of such violation of the law during the year 1872, was the loss of several sea-going steamers laden with grain from Montreal to Europe. During last Session an Act was passed by Parliament on the recommendation of the Minister of Marine, prohibiting grain laden vessels proceeding to sea or obtaining a clearance without the Port Warden's certificate, and in consequence thereof not a grain laden sea-going steamer was lost during 1873, but until Port Wardens are appointed at the coal loading Ports, the law is still open to evasion, as vessels may be all right while clearing from Montreal, but may call at Sydney, C.B., for their supply of coal and leave for Europe too deep for safety and without any infraction of the law.

The Port Warden's amended Act for Montreal and Quebec of last year, has been

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found to work very satisfactorily and no doubt has been of much service in saving both life and property.. During the fall of 1872 there was great loss of life and property in the case of vessels carrying heavy deck loads from British North America to Europe, which fact was brought prominently under the notice of the Canadian Government by Her Majesty's Secretary of State for the Colonies. The attention of the Canadian Government was also drawn to the heavy deck loads carried from Canada to the West Indies, involving sometimes loss of life and property. A Bill was consequently prepared by this Department during last Session, to prevent timber being carried on deck from Canada to Europe between the 1st October and the 16th of March, and no other cargo higher than three feet above the deck during that period, and no cargo higher than four feet six inches above the deck on single-decked vessels from anada to the West Indies, and on spar-decked vessels no deck cargo whatever except two spare spars, between the 15th November and the 16th of March. This Bill was submitted to Parliament by the late Minister of Marine, who ably defended its necessity, both in the Committee of Banking and Commerce and on the floor of the House, and it eventually became law and went into operation with reference to vessels proceeding to Europe on the 1st of October last, and with reference to vessels proceeding to the West Indies on the 15th of November last. This Department construes the West Indies to mean all the British and Foreign West India Islands and British Guiana as well as the Bahamas but not the Bermudas. Although there was considerable opposition to this measure from the Lower Provinces, I believe it will work well, and be attended with beneficial results, without unduly interfering with trade. It would, however, have been more acceptable to the St. John shipowners if the United States had enacted a similar law. The attention of the United States Government has been called to the subject by the British Government, suggesting for their consideration the propriety of enacting similar provisions with reference to vessels engaged in these trades, but I believe without any favorable results as yet.

The number of casualties to sea-going vessels reported to this Department during last year was 321, with an aggregate tonnage of 94,054 tons, and the amount of loss and damage, so far as could be ascertained officially, was $2,685,683. The actual loss, however, must have been far in excess of these figures, as many casualties are never reported to this Department, and the loss of cargoes must have been very great, about which it is often impossible to ascertain correct information The number of lives lost in connection with disasters to sea-going vessels, so far as could be ascertained, was 789. The number of casualties reported to this Department, as having occurred on the inland waters of the Dominion, was 29, with an aggregate tonnage of 5,469 tons, and the amount of loss and damage, so far as could be ascertained, was $158,450. The loss of life, so far as could be ascertained, was 24.

The steamer *Louis Renaud* was wrecked on the 12th May last in the Lachine Rapids above Isle au Heron, and although fortunately no lives were lost on the occasion, it was a very serious accident, and might have resulted in the loss of a large number of people. A Court composed of the Trinity House of Montreal was held to investigate the cause of the accident, and they pronounced it as their opinion that the accident

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was caused by the want of sufficient knowledge or experience on the part of the pilot, and the want of proper attention to the steering of the vessel. They also censured the captain for leaving the vessel as he did, as well as the officers and crew, with the exception of the chief engineer. The vessel subsequently became a total wreck, and broke up.

The principal wreck which occurred, attended with loss of life, was the steamer *Bavarian*, belonging to the Canadian Navigation Company, which ran between Montreal, Kingston, Toronto and Hamilton. This steamer took fire on the 5th November last, about eight o'clock p.m., while on a voyage from Toronto to Montreal, and burned nearly to the water's edge. She had proceeded on her voyage about twenty-five or thirty miles, and was abreast of Whitby Light, about twelve or fifteen miles from the shore when she took fire, and a perfect panic ensued on board. As already stated in a previous part of this Report under the head of Steamboat Inspection, the accident was caused in the first instance by the breaking of the walking beam, which smashed through the saloon and fell on some casks of high wines or strong spirits which were stowed near the boiler on the main deck, breaking the barrels and allowing the spirits to run over the deck and into the hold, when it immediately took fire and burned the vessel. An investigation into the cause of the burning of this vessel was held by Mr Samuel Risley, Chairman of the Board of Steamboat Inspectors, under an Order in Council, and his Report will be found in Appendix No. 44. It appears that she was a new steamer, and only commenced running in the spring of 1873, but the engine and walking beam were about eighteen years' old, and were taken out of the steamer *Kingston* which was burned during the previous year. The captain, Mr. Carmichael, had formerly been captain of the *Kingston*, and when that vessel was burned he was made commander for the cool manner in which he assisted the passengers to get away from the burning vessel; but on the occasion of the burning of the *Bavarian* it appears there was no discipline observed, some of the crew taking away the boats while six persons—three of whom were ladies—were left on board to perish. The pilot was much blamed for taking away a life boat capable of carrying twenty-five or thirty persons with only nine persons in it, and the first mate was blamed for leaving the steamer with a boat containing thirteen persons, which was capable of carrying double that number. There were forty persons on board, of whom twenty were saved. Among those lost was the captain, who jumped into the water with a life-preserver, but he soon after disappeared. He had formerly been a purser, and was highly spoken of by the officers of the Company as one of their best captains, but there is a very general feeling in the minds of the public, that it would be better if the masters of lake steamers could be selected from navigators who had been trained either at sea or on the lakes, instead of from clerks or pursers, as in the event of any emergency occurring such as this, navigators would probably be more able to take command of the crew and give the necessary directions about lowering the boats and preserving discipline on board. On the other hand, some persons of much experience in lake navigation, whose opinion is worthy of consideration, think that a man who has proved himself to be a good purser, and a sober attentive man, may make

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a good captain, as no knowledge of navigation is necessary, the vessels being close to land nearly all the time. Public opinion seems to demand, however, that masters and mates of inland vessels should be examined and certificated as is now the case with sea-going vessels, although, of course, the examination of masters and mates for inland vessels would require to be much more simple than for sea-going vessels. An amendment to the Steamboat Inspection Act appears to be also necessary, providing some additional securities in the way of larger boats, means of lowering them rapidly, and fire extinguishers.

WRECKS.

The amount expended in connection with the investigation relating to wrecks, and procuring wreck returns during the last fiscal year was $1,068.89, and the amount voted was $3,400. Of the amount expended, $329.89 was for the expenses in connection with the investigation into the case of the *Louis Renaud*, $89 for the *Royal Sovereign*, $62 for the *Northern*, $50 for the *Sarah McLeod*, Mr. James Mitchell, for investigating wrecks, $348.50; and the balance for procuring wreck returns, for each of which $2 is sometimes allowed.

REWARDS FOR SAVING LIFE.

When any well authenticated case of bravery or gallantry having been displayed by any person or persons in saving lives of Canadians at sea or from wrecks on our own shores has been reported to the Department, the Minister of Marine has for some years past brought such cases to the notice of his colleagues in the Government, recommending that some testimonial should be awarded to the meritorious person or persons who rescued life; and testimonials accordingly have, in many cases, been awarded. If no risk has been incurred by the persons who rescued the shipwrecked people, a letter of thanks in name of the Government of Canada has usually been sent to such persons. A list of those who received testimonials from the Canadian Government for saving lives from wrecked Canadian vessels will be found in the Appendix No. 45. A list of persons belonging to the Dominion of Canada to whom rewards have been granted by the British and foreign Governments between the 1st July, 1872, and 31st December, 1873, for gallant and humane services in saving life from British and foreign vessels will be found in Appendix No. 46.

From these returns it will be seen that the Canadian Government, during the the eighteen months ended 31st December, 1873, presented twenty testimonials, accompanied by letters of thanks; and in eleven instances letters of thanks alone were sent. In addition to these, presents of money were made in a good number of cases.

The amount expended for this service, including the expense of a life-boat and life-buoys, during last fiscal year, was $1,975.19; and the amount voted was $6,000.

MONTREAL HARBOUR COMMISSIONERS.

The annual report of this corporation for the year ended 31st December, 1873, along with the report of their engineer and harbour master, will be found in Appendix No. 47.

The revenue of the Commissioners for the above-mentioned period, derived from

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harbour dues on vessels and wharfage dues on goods, was $248,884.96, against $225,717.50 for the previous year; showing an increase of $23,167.46.

The receipts from other sources, including interest, debentures sold, money received from Dominion Government on account of dredging and new dredging plant, rents, &c., were $273,083.41; making the total receipts for last year $521,968.41, while the total expenditure, including debentures paid and interest on debentures, new dredging plant, repairs, &c., was $423,341.49.

The Harbour Commissioners of Montreal, in addition to their duties in connection with the harbour, have been entrusted by the Dominion Government with the work of deepening and completing the ship channel in Lake St. Peter, between Montreal and Quebec, for which they are now preparing, and a large amount of new plant has been ordered for this work. Under the authority of the Act 36 Vic., cap. 60, the Governor in Council was authorized to raise by way of loan a sum not exceeding $1,500,000 for this purpose, so as to increase the depth of the channel to twenty-two feet at least, at low water, and a width of not less than three hundred feet. The interest and sinking fund to pay off this debt are to be paid out of the tolls, rates and dues levied by the Harbour Commissioners of Montreal.

As some additional duties formerly performed by the Trinity House, Montreal,—which is now abolished,—have been added to the Harbour Commissioners, including the management of all pilotage matters, Decayed Pilots' Fund, buoys, &c., it has become a very important body, with numerous and important functions, and it is probable that the duties now devolving on the Chairman, including the superintendence of the works connected with the deepening of the channel, will occupy the principal portion of that officer's time; and it may be found necessary to remunerate him for his services out of the revenue of the trust. Up to the present time the Chairman has performed his duties without any remuneration whatever, but this arrangement cannot long continue, as the duties now to be performed have become very important and onerous.

It will also be seen by the report of the harbour master in the Appendix No. 47 that the trade of Montreal has increased to an enormous extent during the last ten years. In 1864 the seagoing tonnage visiting Montreal was 161,901 tons, while in 1873 it was 412,478, being more than double in 1873 what it was in 1864. In 1864 the inland tonnage visiting Montreal was 420,694 tons, while in 1873 it was 933,462 tons, having also more than doubled during the last ten years.

QUEBEC HARBOUR COMMISSIONERS.

The Report of the Harbour Commissioners of Quebec will be found in Appendix No. 65.

The revenues of this body are derived principally from tonnage duties paid on vessels arriving in the Harbour of Quebec, which, at the rate of five cents per ton, amounted, during the year ended 30th April, 1873, to $32,613.94, against $28,284.25, received during the previous year.

The receipts from their properties were $23,208.96, which with some other minor

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receipts and tonnage dues, amounted to the sum of $55,827.50, being the total amount of their receipts. Their expenditure, during the same period was, for interest, $48,465; salaries, repairs, etc., $6,299.12; making altogether the sum of $54,764.12 expended by them, leaving a balance on hand of $1,063.39.

The total value of the assets of the Commissioners on the day alluded to, including their wharves, breakwater, grain-warehouse and other properties, was $704,612.12, and the amount of their liabilities, including their harbour debentures, preferential bonds, coupons due and unclaimed, etc., on the same day was $713,252.50, shewing a deficiency in their assets as compared with their liabilities, of $8,640.38.

The revenues of the Harbour Commissioners of Quebec having proved altogether inadequate for the purpose of carrying on improvements in the harbour, after paying the working expenses, interest on bonds etc., a new Act was passed last session with the view to giving the trade and shipping interests more control over the affairs of the harbour, and enabling the new Harbour Commissioners to increase their tariff and revenue for the purpose of carrying out some much needed improvements in the harbour. By this Act 36 Vict., chapter 62, the Constitution of the Harbour Commission was changed on the 1st October last, and now consists of nine members, namely: three appointed by the Governor, viz: Messrs. Thomas H. Grant, Julien Chabot and John Giblin; two by the Council of the Quebec Board of Trade, viz: Messrs. R. R. Dobell and T. Le Droit; one by the Council of the Levis Board of Trade, viz: Mr. L. J. Desjardins; and three by the owners, consignees and agents who had paid harbour dues on vessels, goods and merchandise during the previous year, viz: Messrs. John Gilmour, John Sharples and James G. Ross. Under the Act alluded to, the Commissioners have now the power to appropriate property which they may consider necessary for the improvement of the harbour; and the Governor in Council was empowered to raise by the issue of debentures, $1,200,000, for the purpose of paying off the liabilities of the Harbour Commissioners, amounting to upwards of $700,000, the balance to be applied to the improvement of the harbour. With the money thus raised and loaned to the Harbour Commissioners, I understand their liabilities have nearly all been paid off. This loan is to be repaid to the Government with interest at the rate of five per cent. annually, for which purpose one per cent. is to be annually invested as a sinking fund; and if the dues are at any time found insufficient, then the Governor in Council may increase them, so as to enable the Commissioners to pay the interest and sinking fund.

Power was also given under this Act to the Harbour Commissioners to borrow money at interest, not exceeding six per cent. to be expended along with any sums voted by the Parliament of Canada or granted by Her Majesty's Imperial Government in building a graving dock in Quebec suitable for accommodating vessels of a large class, but although one of the Harbour Commissioners has proceeded to London for the purpose of bringing the subject under the notice of Her Majesty's Government, still no arrangements have as yet been completed for carrying into effect this portion of the Act referred to.

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SUBSIDIES TO STEAMERS.

The subsidies to steamers paid by the Government of Canada for carrying the mails are disbursed by the Post Office Department, but in the case of the Quebec and Gulf Ports Steamship Company, a subsidy is given to them, not only for carrying the mails, but for keeping up the route for the accommodation of passengers and for freight traffic. The boats of this Company run regularly between Quebec and Pictou during the season of navigation, leaving Quebec every Tuesday at two o'clock, and reaching Pictou on the following Saturday afternoon or Sunday morning. On the return trip they leave Pictou every Tuesday morning at seven o'clock, arriving in Quebec generally on Saturday forenoon, touching at Father Point, Gaspé, Perce, Miramichi and Shediac, each way. For the round trip they received $750. Once a fortnight, and sometimes once a week, they performed the side service of running up the Bay of Chaleur to Dalhousie, touching at Paspebiac, for which a sum ranging from $50 to $100 was paid in addition. During last season the first boat started from Quebec on the 7th of May, and the last boat arrived at Quebec on the 24th of November.

In addition to the boats on this route, this Company runs steamers principally for freight between Montreal, Charlottetown and Pictou, during the season of navigation.

The amount paid by the Government of Canada to this Company for the performance of the services alluded to under their contract for the season of 1873 was $23,600, of which $15,000 was paid through this Department, and $8,600 through the Post Office Department.

The total amount paid for this service for the last six years, was as follows :—

For the season of	1868	$16,500
" "	1869	23,900
" "	1870	23,850
" "	1871	23,900
" "	1872	23,600
" "	1873	23,600

Under a contract made by the Nova Scotia Government, previous to confederation with the Prince Edward Island Steam Navigation Company, the sum of $1,600 per annum, Nova Scotia currency, has been paid during the last ten years for carrying the mails and passengers between Charlottetown and Pictou twice a week during the season of navigation, but that contract expires on February next. The amount of $1,557.33, Dominion currency, was paid for this service during last season.

STAFF IN DEPARTMENT AT OTTAWA.

In Appendix No. 66 will be found a list of the staff at Ottawa, with the rank of each, and the amount of salary and bonus received by each, during the fiscal year ended 30th June, 1873.

On the 29th of July, 1872, Thomas King, a Messenger in the Department, receiving a salary of $330 per annum, was suspended by me, in the absence of the Minister, for neglect of duty.

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Mr. G. C. Haney, a Third-class Clerk, receiving a salary of $450 per annum, resigned his situation and left the Civil Service.

On the 31st of August, 1873, Mr. Thomas Drinkwater, Third-class Clerk and Stenographic Writer, receiving a salary of $600 per annum, resigned his situation and left the Civil Service.

On the 30th of September, 1873, Mr. J. H. McIllree and Mr. G. H. Harpur, both Third-class Clerks, and each receiving a salary of $450 per annum, resigned their situations, and joined the Mounted Police Force of Manitoba.

On the 7th of October, 1872, Mr. Jules Morin was appointed a Messenger in this Department at a salary of $480 per annum.

On the 17th of December, 1872, Mr. W. E. Everest was appointed a Junior Second-class Clerk, at a salary of $700 per annum, with $200 in addition, to act as Private Secretary to the Minister.

On the 30th of May, 1873, Mr. William Steil Pettegrew, who had been for sometime Extra Clerk in this Department, was appointed a Senior Second-class Clerk at a salary of $1,100 per annum; such appointment taking effect from 1st July, 1873.

On the 1st of July, 1873, Mr. Robert N. Venning was appointed a Junior Second-class Clerk at a salary of $700 per annum.

On the 18th of October, 1873, Mr. Marmaduke Graburn, who was Captain of the Goverment Schooner *J. H. Nickerson* for some months, was appointed a Senior Second-class Clerk, at a salary of $1,100 per annum.

On the 1st of November, 1873, Mr. James Brooke Halkett was appointed a Third-class Clerk, at a salary of $500 per annum.

On the 1st of November, 1872, Mr. William H. Alexander was promoted from a Third-class Clerkship, at a salary of $550 per annum, to a Junior Second-class Clerkship, at a salary of $700 per annum.

On the 22nd of October, 1873, Mr. William Loftus Magee was promoted from a Senior Second-class Clerkship, at $1,250 per annum, to a First-class Clerkship, at a salary of $1,400 per annum; such increase taking effect from 1st July, 1873.

A reference to the addenda accompanying this Report and that of the Commissioner of Fisheries, will shew the number of persons employed on the outside service of this Department, including the officers and crews of the Government vessels under the control and management of this Department. As already mentioned in this Report, the number last year was 1,123, while for the previous year it was 1,035.

I have the honour to be, Sir,

Your most obedient Servant,

WM. SMITH,

Deputy Minister of Marine and Fisheries.

OTTAWA, 1st January, 1874.

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REPORT

OF

W. F. WHITCHER, Esq.,

COMMISSIONER OF FISHERIES.

To the Honorable
ALBERT J. SMITH,
Minister of Marine and Fisheries.

The undersigned has the honor to report, for the Minister's information, as follows, on the subject of

THE FISHERIES.

CONDITION AND YIELD IN 1873.

It is satisfactory to note the continued prosperity of our fishing interests. Th condition of the fisheries yearly improves, and their produce annually increases in quantity and value. Details regarding their present state and prospective development are contained in the reports of the various fishery officers engaged in the service of this Department, which appear in the appendix. The whole value of fish products for the past season amounts to $11,794,975. This sum exhibits the value of fish products in the Provinces of Nova Scotia, New Brunswick, Quebec, Ontario and Prince Edward Island; but does not include the catch of British Columbia, Manitoba and the North-West Territories. The proportion of this amount which represents production for foreign export and domestic commerce, exclusive of local consumption, is $10,722,705. In addition to the above-mentioned value, it is computed that American fishermen have also caught on the coasts of Canada between six and eight millions of dollars worth of merchantable fish. The whole value of the yield from these fisheries last year therefore exceeds eighteen millions of dollars.

These figures show that the fisheries of Canada, as a resource of trade and a source of food, are of very great value to the Canadian people, and also to the citizens of the United States.

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COMPARATIVE TABLE.

The following Comparative Statement shows the Production in each branch of Fishing within the respective Provinces in 1872 and 1873.

PROVINCE OF NOVA SCOTIA.

1872.			1873.		
Kinds of Fish.	Quantity.	Value.	Kinds of Fish.	Quantity.	Value.
		$			$ cts.
Codfish	525,249 lbs.	2,232,308	Codfish	595,567 cwt.	2,531,159 75
Mackerel	115,833 brls.	1,624,894	Mackerel	141,005 brls.	1,410,050 00
			do preserved	10,842 cans.	1,626 30
Herring	170,657 ,,	682,628	Herrings	178,126 brls.	712,504 00
			do smoked	21,430 boxes.	5,357 50
Salmon	6,677 ,,	144,078	Salmon, pickled	4,633 brls.	83,394 00
			do fresh, in ice	504,523 lbs.	75,678 45
			do smoked	37,376 ,,	5,664 00
Other Fish and Fish Oils		1,332,927	do preserved	161,800 cans.	40,450 00
			Alewives	11,783 brls.	41,240 05
			Cod Tongues & Sounds	2,467 ,,	17,269 00
			Pollock	25,350 cwt.	88,725 00
			Hake	44,321 ,,	155,123 50
			Haddock	1,628,045 lbs.	97,682 70
			Halibut	535,035 ,,	32,102 10
			Shad	4,612 brls.	36,896 00
			Bass	2,560 lbs.	153 60
			Trout	73,167 ,,	4,390 02
			Smelts	112,879 ,,	6,772 74
			Eels	2,337 brls.	21,033 00
			Oysters	12,128 ,,	36,384 00
			Lobsters	3,462,298 cans.	865,574 50
			Oil	465,379 gals.	302,496 35
			Fish Guano	322 tons.	4,830 00
			Fish for Manure	1,059 brls.	529 50
		6,016,835			$6,577,086 51

PROVINCE OF NEW BRUNSWICK.

Codfish	81,420 qtls.	346,035	Codfish	79,694 cwt.	338,699 00
Mackerel	2,217 brls.	32,728	Mackerel	3,229 brls.	32,290 00
			do preserved	21,050 cans.	3,157 00
Herring	124,157 ,,	496,628	Herrings	94,149 brls.	376,596 00
			do smoked	498,840 boxes.	124,710 00
Salmon	8,000	207,767	Salmon, pickled	1,047 brls.	18,846 00
			do fresh, in ice	1,433,188 lbs.	214,978 20
			do smoked	87,950 ,,	13,192 50
			do preserved	1,121,184 cans.	280,296 00
			Alewives	31,004 brls.	108,514 00
			Cod Tongues & Sounds	3,605 ,,	25,235 00
			Pollock	18,399 cwt.	64,396 50
			Hake	25,733 ,,	90,065 50
			Haddock	264,661 lbs.	15,880 86
			Halibut	127,400 ,,	7,644 00
			Shad	2,896 brls.	23,168 00
Carried forward					

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COMPARATIVE TABLE.—*Continued.*

The following Comparative Statement shows the Production in each branch of Fishing within the respective Provinces in 1872 and 1873.

PROVINCE OF NEW BRUNSWICK.—*Continued.*

1872.			1873.		
Kinds of Fish.	Quantity.	Value.	Kinds of Fish.	Quantity.	Value.
		$			$ cts.
Brought forward.....	.....	.....	....	.....	... .
Other Fish and Fish Oil.....	.....	882,301	Bass.....	424,387 lbs.	25,463 22
			Trout	109,980 ,,	6,598 80
			Smelts.....	697,520 ,,	41,851 20
			Eels....	3,652 brls.	32,868 00
			Oysters.....	15,160 ,,	45,480 00
			Lobsters	1,387,700 cans.	346,925 00
			Oil.....	57,961 gals.	37,674 65
			Fish Guano.....	482½ tons.	7,237 50
			Fish for Manure.....	7,788 brls.	3,894 00
		1,965,459			$2,285,661 93

PROVINCE OF QUEBEC.

Codfish..	217,741 lbs.	911,845	Summer Codfish	184,106 cwt.	736,424 00
			Autumn do	31,467 ,,	157,335 00
Mackerel	1,759 brls.	17,590	Mackerel	6,170 brls.	61,700 00
Herring.....	29,069 ,,	87,206	Herring	34,770 ,,	104,310 00
			Herring, smoked	816 boxes	204 00
Salmon.....	4,050 ,,	64,800	Salmon, pickled	2,042 brls.	32,672 00
			do fresh in ice	632,758 lbs.	31,637 00
			do in cans	18,000 cans	3,600 00
			do smoked	75 boxes	2,250 00
			Ling	8 brls.	40 00
			Sardines.....	870 ,,	4,350 00
			Halibut	458 ,,	2,290 00
			Trout	99 ,,	990 00
			Sturgeon	381 ,,	1,905 00
			Eels, per 100	16,054	10,840 00
			Cod Tongues & Sounds.	203 brls.	1,421 00
Other Fish and Fish Oils.	.....	238,748	Seal Oil	58,645 galls.	46,916 00
			Whale Oil	400 ,,	20 00
			Porpoise Oil	143 ,,	71 00
			Cod Oil	91,627 ,,	45,813 00
			Haddock	479 brls.	2,395 00
			Bar and White Fish...	24 756 doz.	49,512 00
			Mixed fish.....	778 brls.	3,112 00
			Shad	19,694 ,,	1,969 00
			Fish for manure	21,712 ,,	5,428 00
			Seals	12,816 ,,	76,896 00
			Lobsters, in cans.....	15,000 lbs.	2,250 00
		1,320,189			1,391,564 00

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COMPARATIVE TABLE.—*Continued.*

The following Comparative Statement shows the Production in each branch of Fishing within the respective Provinces in 1872 and 1873.

PROVINCE OF ONTARIO.

1872.			1873.		
Kinds of Fish.	Quantity.	Value.	Kinds of Fish.	Quantity.	Value.
		$			$ cts.
White Fish.....	17,490 brls.	143,520	White Fish	16,453 brls.	82,265 00
			do	1,430,514 lbs.	71,525 00
			do per hundred	43,586	2,179 00
Trout	7,586 ,,	60,688	Trout	9,188 brls.	73,504 00
Herring	6,974 ,,	41,844	Herring	7,348 ,,	36,740 00
			Sciscos	288 ,,	1,440 00
			Maskinonge	143 ,,	1,430 00
Other Fish	4,466 ,,	21,581	Bass	731 ,,	3,655 00
			Pike	1,248 ,,	6,240 00
			Pickerel	1,055 ,,	5,275 00
			Coarse fish	2,806 ,,	8,838 00
		267,633			293,091 00

PRINCE EDWARD ISLAND.

Codfish.....	4,696 qtls.	15,998	Codfish	15,110 qtls.	46,316 00
Hake	1,806 ,,	5,319	Hake		
Mackerel	9,126 brls.	111,512	Mackerel		
Alewives	142 ,,	416	Alewives	13,133 brls.	115,628 00
Herrings	67 ,,	201	Herrings		
Sounds	.....	.....	Sounds	....	45,651 00
Fish, fresh, &c.....	.....	4,300	Fish, fresh, &c...		
		137,746			207,595 00

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Expenditure and Receipts.

The following statements exhibit the respective amounts expended and collected during the fiscal year ending 30th June, 1873, and the current expenses and collections from 1st July to 31st December, 1873. The expenditure for the period first above named is sub-divided for the several Provinces and services, as follows:—

ONTARIO.

Fishery Overseers' salaries and disbursements, fish-breeding, &c.....	$8,141 99

QUEBEC.

Fishery Overseers' salaries and disbursements, expenses of *La Canadienne*, fish-breeding, &c.....	19,552 35

NEW BRUNSWICK.

Fishery Overseers' salaries and disbursements, &c., &c., &c..	7,699 99

NOVA SCOTIA.

Fishery Overseers' salaries and disbursements, &c., &c., &c...	8,689 07
Total.....	$44,083 30

And for the subsequent half-year, as below:

Ontario, Fishery Overseers' salaries and disbursements.....				$3,286 76
Quebec,	do	do	.....	7,911 77
Nova Scotia,	do	do	.....	5,107 50
New Brunswick,	do	do	.....	3,110 00
La Canadienne,	do	do	.....	7,809 00
Fish-breeding,	do	do	.....	9,020 10
Total.....				$36,236 22

The collections during the fiscal year are arranged under the following heads:—

ONTARIO.

Rents, license fees, fines and confiscations	$4,477 50

QUEBEC.

Rents, license fees, fines and forfeitures	4,928 83

NOVA SCOTIA.

Taxes on nets, fines and forfeitures	159 30

NEW BRUNSWICK.

Rents, taxes on nets, fines and forfeitures	647 61
Total.....	$10,213 24

And those for the next six months are as follows:—

Ontario, rents and fees.....	$2,923 50

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Quebec, rents and fees	5,530 55
Nova Scotia, do	98 94
New Brunswick, rents and fees	513 60
Total	$9,066 59

There is no material difference to be accounted for between lease and license dues accruing and those actually paid, since the former practice of accepting sureties on behalf of the Crown has been abandoned and the rents and fees are now payable in advance. This mode admits of simpler forms and surety of payment, besides being very much better in point of promptness and economy. It also furnishes the Department with a direct check on each transaction, and avoids the usual risks and supervisory expenses attending remote agencies.

MARINE POLICE.

This force was only partially maintained throughout the past season. The usual vessels were not chartered for the purpose, two schooners already owned by the Government having been equipped for such service. These vessels were the *J. H. Nickerson* and the *J. W. Dunscomb*. Under authority of the Governor General in Council an unexpended balance of the appropriation for this duty, amounting to $11,215, was used to maintain these vessels in service for a portion of the season; but owing to urgent requirements at a later period the funds proved insufficient, and assistance was obtained from the vote for "Unforeseen Expenses," which will require to be provided against in supplementary estimates at the ensuing session of Parliament.

The admission of United States citizens and American fishermen to our in-shores, in pursuance of the Washington Treaty, will necessitate the constant employment of cruisers to maintain order and regulate the fishing. It will be necessary to protect our own fishermen from injury and molestation, and to enforce the observance of our fishery laws. Also, it will be desirable to adopt some general system of regulation to prevent or correct any such abuses in the common pursuit as are calculated to inflict permanent damage on our estuary and river fisheries. A comprehensive code of rules was adopted under the Fishery Convention between Great Britain and France in 1839, to obviate collisions and disputes between the vessels and subjects of the respective powers. These regulations were framed by a Mixed Commission, analogous it is presumed to that contemplated by article twenty of the present treaty. In the meantime the existing fishery laws, supplemented if necessary by regulations of the Governor General in Council, may suffice to avert any present injury from improper or unseasonable fishing; and for the present, at least, two marine police vessels should be kept on active duty.

SEIZURES LIBERATED.

The American fishing vessels *Enola C.* and *James Bliss*, seized during the preceding season, were finally restored by relinquishment of bonds to their respective owners. This proceeding appears to have occurred as an act of neighbourly consideration towards the

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proprietors, and in pursuance of the amicable disposition evinced by the Canadian Government in anticipating the action of Congress giving reciprocal effect to fishery clauses of the Washington Treaty, by admitting United States' citizens to the specified privileges in advance of the formal legislation and executive proclamation provided for in the Treaty.

TREATY OF WASHINGTON.

The Fishery Articles of the Treaty of Washington came formally into operation on the 1st July, 1873, by proclamation of a conference at Washington between Her Majesty's Minister and the American Secretary of State on the 7th of June last. The protocol recites the several Acts passed respectively by the Parliament of Canada on the 14th of June, 1872, the Legislature of Prince Edward Island on the 29th June, 1872, and the United States Congress on the 1st of March, 1873. In the case of Canada it was deemed advisable to admit American fishermen to the practical use of the specified privileges in advance of this formal completion of the Treaty stipulations. An official communication to such effect was made early in the springtime of last year, and under a "Circular" from the United States' Treasury Department, dated 1st April, 1873, American fishermen at once availed themselves of the freedom of our inshore waters. It was fitly acknowledged, through the American Secretary of State, as a "courteous and liberal "act" on the part of the Dominion Government.

Nearly two years have elapsed since the ratification of this compact by the Colonial Governments concerned, but as yet the Joint Commission provided for, to establish the amount of compensation payable for the excess of value of the privileges accorded by Canada over that of American concessions, has not been organized. The British Agent appointed in August to attend the Convention reached Canada during the month of October last, and after a short stay in Ottawa, proceeded to Washington. Certain of the evidence and documentary information required to establish the claim asserted on behalf of Great Britain were in course of preparation for use in this arbitration under the orders of your predecessor.

The "CASE" and its supports had been arranged by the undersigned in accordance with official instructions, and were submitted for the information of the present Government.

MANITOBA.

The character and importance of the Inland Fisheries of this Province were noticed in last year's report. It does not seem to have been thought necessary to apply the fishery laws to Manitoba, although it appears that a fishery overseer was appointed by the Government at Winnipeg, in anticipation possibly of the necessary legislation in that respect. The "Protection of Fisheries" is included among the other services assumed by Canada in the Manitoba Act. A minute passed by the North West Council in September last invites the attention of the Dominion Government to this subject. The Council state:—

"They are of opinion that the time has arrived when steps should be taken with a "view to preventing any serious diminution in the supply of white fish.

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"That in view of the fact that in certain portions of the North West-Territory, and "more especially in the vicinity of Norway House, the inhabitants are entirely dependent "upon fish for food, the Council suggest that steps should be taken by the Dominion "Government to prevent persons from setting nets or weirs in the main channels of "rivers, or at any other points through which fish are in the habit of passing to their "spawning grounds in such a manner as to prevent the ingress of the fish, and to enforce "such regulations as may, from time to time, appear necessary for the preservation of the "fish.

"The Council also desire to suggest to the Dominion Government that measures "should be adopted to prevent the accumulation of sawdust in rivers and streams in such "parts of the North West Territories wherein saw mills have been or are about to be "erected."

PACIFIC COAST.

The deep-sea, coast and river fisheries of British Columbia were referred to at length in the last official report. It may be desirable before long to bestow on them closer attention. The rapid development of the salmon fishery of California will probably stimulate the same branch of industry within British territory on the Pacific Coast. Although there may not exist any immediate necessity to extend the Dominion Fishery Laws to British Columbia, the Department should not fail to obtain early and authentic information of the condition and wants of the fishing interests in that Province. Instructions in this regard were given to the Departmental Agent at Victoria. A short report from Mr. Cooper, who at present occupies that position, appears in the Appendices. There is already a short provision in No. 12 of the Revised Statutes (1871) prohibiting fishing with nets in Victoria Arm.

INLAND LAKES.

In the frontier and interior lakes fishing has proved successful; but it is chiefly in the former that this pursuit engages sufficient attention to be remunerative as a commercial enterprise.

PRINCE EDWARD ISLAND.

Since the publication of last year's report the rich fisheries of the Island of Prince Edward have been added to our maritime resources. These fisheries, consisting principally of deep-sea and tidal fishes, which frequent the inshores, and of shell-fish, may not just now require legal protection; but the Department will ascertain, through the local agency, in the course of the ensuing season, if any and what fishery regulations can, with advantage to the public, be applied in that section. A local statute, 32 Vic., cap. 27, now affects the salmon fishery; and the Act 34 Vic., cap. 20, relates to the protection of oysters, and preservation of trout. Fishery officers are appointed under these laws.

ARTIFICIAL FISH-BREEDING.

Operations carried on at the Government fish-breeding establishment at Newcastle, Ontario, have been very successful. The salmon fry of last spring were distributed in

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various rivers emptying into Lake Ontario. The eggs gathered and laid down last fall, numbering about half a million, are being hatched out with the minute percentage of loss, reckoned at only five per cent. Other salmon-breeding establishments have been started at Tadousac, Gaspé, Miramichi and Restigouche, with every prospect of success. At the Moisie River, on the north shore of the St. Lawrence, a private undertaking by the lessee of the salmon fishery, has resulted in the reproduction by artificial process of a great number of salmon, the immediate effect of which has been to augment the yield from the estuary fishings.

It is intended to utilize the experiments made by fish culturists in the United States, in hatching some of the coarser kinds of fish, such as shad, alewives and bass, and to endeavor to breed these fish extensively for Canadian waters. The attendant risks and delays, and consequent expense of reproducing in appreciable quantities such fish as trout, salmon and whitefish, render it highly desirable to bestow more attention on those kinds which can be more readily produced and sold cheaper as food for the masses. Also it is intended to further the establishment of an extensive hatching house on the Detroit River, for cultivating white fish. There is some prospect of the United States Government joining in such an undertaking, in order that the border waters, common to Canada and the American Union, may mutually benefit by such an enterprise.

REVISION OF DISTRICTS.

With a view of placing the supervision of fishing districts by Fishery Officers on a more efficient and economical footing, it is desirable to re-arrange the existing limits, and in some counties it will be necessary to increase or afford assistance to the present staff.

GENERAL EFFECT OF ENFORCEMENT OF THE FISHERY LAWS.

There can be no doubt that systematic enforcement of the fishery laws and an organized regulation of fishing pursuits have had a most beneficial effect on the condition and yield of both the inland and coast fisheries of Canada. Besides enhancing their value to the country, and increasing their worth to the fishermen, these measures have placed our fisheries almost beyond the reach of injury or serious detriment; and have established in a prosperous condition and on a secure basis this very important national possession.

RENTING OF ANGLING STREAMS.

The angling divisions of several salmon rivers on the St. Lawrence are now vacant, and others will be disposable in the course of next spring. These privileges it is proposed to advertise, and to invite offers to rent the same. When occupied by sportsmen the rivers receive increased protection; and besides contributing to the fishery funds they also become subject to local guardianship at private cost, and in that respect cease to be a charge on the public revenue.

DREDGING OPERATIONS.

Combined with other endeavors to increase the food fishes of North American coasts, a marked scientific interest has been displayed as regards the reproduction of fish and the

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restoration of fisheries. In Canadian waters these enquiries have been directed chiefly to the habits and food of our inshore fishes. Having but small means of pursuing an investigation of this nature, the Department is much indebted to the Natural History Society of Montreal, for the successful enquiries thus far prosecuted. It is due to the zeal and ability of Mr. Whiteaves, as Curator, that the Department has been enabled for two seasons past to procure much valuable information regarding the fauna of the Gulf and Lower St. Lawrence. Mr. Whiteaves' attention was this year specially turned to the state of the oyster fisheries, regarding which he offers valuable suggestions, in a report to be found in the Appendix.

INTERNATIONAL LEGISLATION.

The manifest decline of the fisheries on the American shores of the Great Lakes has induced special efforts to restore them. In this the Federal and State Governments are co-operating. Where these waters border closely on the United States and Canada, it becomes a common necessity to assimilate as nearly as practicable the local fishery regulations. This is very easy as respects the Dominion, owing to the large statutory powers conferred on the Government, and the elasticity of our protective system. There is every desire to assist and co-operate with the Federal and State authorities in attaining such improvements as shall be mutually advantageous to us as near neighbors. Besides the United States Commissioner and his efficient staff of assistants, there are now thirty-seven State Commissioners appointed for purposes connected with the restoration and preservation of these inland fisheries.

LOBSTER FISHERY.

This fishery has but lately assumed commercial importance, and is prosecuted chiefly on the coasts of Nova Scotia and New Brunswick. In the former Province about forty, and in the latter Province about twenty-four, factories are now in operation for the preparation and canning of lobsters. These establishments employ a considerable amount of capital and labor. They use about 50,000 tons of raw material each season, and they exported to United States' markets last year upwards of 20,000 tons of canned lobsters. Smaller quantities were consigned to other markets. The value of the lobster catch cured in 1873 amounts to $1,214,749.50. About $120,000 worth are disposed of in a fresh state. These sums indicate the extent of the interests connected with this branch of the fishing industry, and also suggest the danger of over-production. Both of which indications point to the necessity for economising and perpetuating the natural supply. It seems that excessive fishing has exhausted the lobster fishery along the north-eastern coast of the United States; and that the enterprise which was embarked in the same has now been transferred to Canada. Such being the case, if the same indiscriminate fishing should be practiced on our coasts, similar results might occur. Doubtless, for a short time all persons interested would prosper, and the country may appear to benefit by the rapid and extensive development of this resource; but a period of reaction must necessarily ensue, commencing sooner or later in an enfeebled or exhausted condition of the fishery.

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If we would perpetuate such a valuable possession, it appears wiser to economise it in time than to be obliged later on to make extreme and costly endeavors to arrest its decline, or to restore it from complete exhaustion. There is nothing easier than to exhaust a shell fish fishery, and nothing harder than to revive it. The oyster fishery of the country should serve us as a warning example. It may be regarded as nearly ruined by incessant working, whilst proper use of it might have preserved it to us at the least as a failing industry which special efforts could reclaim. The need of some timely precaution to preserve the lobster fishery seems to have induced the late Government to adopt a regulation on the subject in July last. This regulation prohibits the catching of immature lobsters and females in spawn, or any of less weight than one and a half pounds. Remonstrances against these prohibitions have been made from various quarters. The chief objections emanate from proprietors of the canning establishments, who find their supply of raw material somewhat curtailed. Minor exceptions are taken on behalf of the lobster catchers on the ground that the liberation of undersized specimens entails great loss and inconvenience, and in some localities the stock consisting of small sized lobsters, the limitation is entirely prohibitory. An enquiry into the whole matter was made during the past season, and has resulted in producing information of a valuable character which will be found in the Appendices to this Report.

It appears quite clear that some restrictions are indispensable. It is equally evident that whatever form such restrictions assume, they must occasion more or less of momentary inconvenience to persons affected by them, and prejudice immediate gain. But the choice of protective means really lies between such necessary and practical protection as can be attained consistently with the existence of this industry on a reasonably remunerative footing. The permanence of the resource demands paramount consideration. If therefore the existing regulation inevitably causes some degree of inconvenience, it is very probable that any truly effective substitute will prove even more obnoxious to those who are in fact interested in pursuing the business unrestrictedly as to time, place, means and consequences.

FISHWAYS AND PASSES.

In addition to the fishways on mill-dams already built, there were constructed last year in Nova Scotia, four; in New Brunswick, three; and in Quebec, four. Natural obstructions were removed by mining and otherwise in various places—the most important being at the falls on the Dartmouth river, in Gaspé County, Quebec; at à Mars River, in Saguenay County, Quebec; Salmon River in Victoria County, New Brunswick; Kyte's Brook in Richmond County, Nova Scotia; Ketch Harbour River, in Halifax County, Nova Scotia; and Salmon River in Guysboro' County, Nova Scotia. The removal of these obstacles, more particularly of accumulations across the mouths of rivers and hitherto impassable falls higher up the streams, opens up extensive breeding grounds for fish, and promises to be of great service to the neighboring fisheries.

OYSTER BEDS.

A close-time of three months, embracing June, July and August, was established by an Order in Council, dated 28th May, 1868, in the hope of arresting the decline of the

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oyster fishery. It does not seem to have had the desired effect, probably because of the previous destruction of so many of the beds, and the inability to recruit the remaining grounds so long as raking them at all continues. More effectual means must soon be devised.

FISHERY REGULATIONS.

Owing to the passage of numerous Fishery Regulations, from time to time, for five years past, some confusion exists, and it is probable that a condensed code of by-laws will be submitted for adoption under the Fishery Laws, with the view of simplifying their operation and ensuring due legal effect. The extension of the leasing and licensing system in the Maritime Provinces would, to some extent, obviate the necessity for continuing many of these regulations, as conditions may be embodied in such titles equivalent to prohibitory clauses, the non observance of which would expose the privilege granted to summary forfeiture.

PROTECTION OF INTERIOR WATERS.

The demand for fresh fish of every kind has so much increased, that parties resort to interior waters throughout the country wherever valuable kinds can be procured. This practice has led to indiscriminate and excessive fishing, which required to be promptly checked. It has necessitated the employment of additional fishery officers to enforce the laws in remote sections, and entailed considerable expense on the service; but in those instances where extensive preparations have been frustrated and actual operations disturbed, official efforts in such particular direction have been somewhat relaxed and transferred to other localities.

PROTECTION OF SPAWNING FISHES.

Regulations were passed last year to protect the most important of the spring fishes during their spawning seasons. Further restrictions are necessary to preserve the white fish, salmon, trout and smelt fisheries.

REFUSE IN STREAMS.

The long-standing nuisance of obstructions and pollutions in streams, from the refuse of manufactories, has not (as respects sawdust and mill-offals) been much abated In those rivers in which the importance of any fishery justified the prevention of this practice, the fishery laws could be readily applied to reduce or altogether prevent injurious consequences. But in other streams, where the interests of navigation rather than of fishing conflict with the convenience of manufacturers, nothing worthy of notice has been accomplished. An Act was passed at the last session of Parliament prohibiting the casting of such rubbish into navigable rivers and streams. It contains a proviso that those streams in which it is unnecessary for the public interest that the prohibition shall be enforced, may be exempted wholly or in part by proclamation in the *Canada Gazette*. The duty of examining into each case devolves on the fishery officers. Several petitions for exemption have been fyled with this Department, but it has been found impossible, with the present limited staff of fishery officers, receiving very small salaries, to procure such trustworthy information as would enable the Government to decide a matter requiring

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so much of practical observation and careful inquiry. The duty requires some peculiar qualifications, and involves special labors. It can hardly be expected that unprofessional men would undertake and perform it satisfactorily as part of their services in the capacity of Fishery Overseers, unless induced by the prospect of adequate remuneration. The three Commissioners, appointed by the late Government on this subject, failed after about two years of minute and expensive labor to submit any definite conclusion in a single instance.

It is recommended that application be made to Parliament for a supplementary vote to defray the extra expense attending a thorough investigation into each case, with a view to final action in the premises.

IMPROVEMENT OF SALMON FISHERY.

The improvement of the salmon fishery, especially in the Province of Quebec, is very significant. In some districts it has increased in yield nearly three hundred per cent. This results from reducing the nets and protecting the fish whilst breeding. It is most remarkable in the Restigouche and Moisie districts. After removing nets from the islands at the head of Chaleur Bay and from the channels of the estuary of River Restigouche, the salmon fishery in that district began immediately to improve. The same effect was observable in the River Moisie. At both places it is now clearly proved that immoderate netting is a serious hindrance to the restoration of the salmon fishery, and a positive disadvantage to the fishermen themselves. It also is quite as clearly established that a moderate quantity of nets, judiciously situated, render at once a far more profitable return to the owners and admit of maintaining a permanent stock of mature salmon. This fact has a peculiar bearing on the regulation of the salmon fishery. The occupancy of salmon stands under formal titles enables the occupiers to economise both their own capital and labor and the public property in salmon. Where the fishery is carried on in a desultory and improvident manner, under such incitements to excess as are created by contentious rivalry and the prospect of mere temporary gain, it is extremely difficult to control fishing operations within reasonable bounds. But, on the other hand, where occupants can rely on the permanence of their holdings, and enjoy in successive years the benefit of their own moderation in each preceding season, the Department finds very little difficulty in controlling the pursuit. It is not easy to convince fishermen how much cheaper and more profitable it is in their own interest to conform to the same principles on which legal protection is founded and the departmental regulations are enforced. Nothing short of the plainest examples appears to be sufficient to attract their earnest attention. On the opposite pages will be seen two diagrams illustrating the difference between the results of excessive and of moderate netting in a salmon river. These sketches show, that in the year 1859 when about 15,000 fathoms of nets were placed in the River Moisie, the salmon fishery yielded about 75,000 lbs. of fish ; and last year with only 2,500 fathoms of nets in use it produced 204,000 lbs. The yield has been increasing each year whilst the netting was in course of restriction. At present the stream has probably attained its maximum of production in a natural state ; but successful operations in artificial salmon culture will no doubt double its present yield.

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FRESH FISH TRADE.

The modern methods of preserving fish fresh for an indefinite period of time have imparted great activity to the trade in fresh fish, and led to the more valuable species being now disposed of fresh, instead of being pickled. This change involves a considerable saving of substance, time, labour and expense attending the process of curing. It also facilitates the sale and places within the reach of consumers an earlier, better and cheaper article of food in a fresh state throughout the whole season.

There are two devices in use for preserving fish fresh. One consists in placing the fish in sealed metal boxes, in a mixture of ice and salt. The other and most convenient method is to keep the fish in a wooden chamber, enclosed within double walls, and filled with the same mixture. They are placed in the central apartment of the structure, the temperature of which is maintained from 18° to 25° above zero. By renewing the supply of mixture weekly or monthly, according to the mass, the desired temperature can be kept up, and the contents preserved fresh for an indefinite period. These processes, and their adaptation as refrigerators to railroad cars, enable dealers to maintain a constant supply, and to receive or transmit consignments from and to all parts of the country. The completion of more direct communication with the seaboard by the Intercolonial Railway will open up a very extensive market for the fresh fish business in the Maritime Provinces.

FISH INSPECTION LAWS.

The general Inspection Act recently passed by Parliament, embodies a measure prepared by the undersigned for a systematic inspection of fish and fish oils. The original design of this compulsory system has not, however, been carried out. It was framed with a view to uniformity, economy and efficiency. The existing outside staff of local Fishery Officers was counted upon as affording convenient and appropriate means of securing a speedy and thorough method of inspection. These officers were to combine with their present functions the duties of Assistant Inspectors, under the General Inspector, after proving their qualification; thus admitting of the adoption of a light scale of fees, and which, by supplementing their nominal pay in the protective service, would probably conduce to special attention, and promote their common efficiency. There were many other advantages connected with the proposed combination, which would doubtless have rendered it less burdensome to the fishing interests, more acceptable to the trade and better calculated to fulfil the main purpose of its adoption by this Department. In conjunction with the statutory prohibitions affecting fish taken at unlawful seasons and by illegal means, it was intended to protect the public from other impositions, in the shape of unseasonable and unwholesome fish foods. The late Government does not seem to have appreciated the leading object of a compulsory plan of fish inspection, nor the labor and care required to adapt it to the wants of fishermen and consumers, and the necessities of the trade; consequently its administration was withheld from the Fisheries Department. This result is the more to be regretted in view of the fact that already the measure has given rise to objections aiming at the principle of the system, and which might easily have been obviated.

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ASSIMILATION OF SYSTEM OF LEASING AND LICENSING FISHERY PRIVILEGES.

During the last session of Parliament a promise was elicited from your predecessor to assimilate the practice regarding the occupation of certain fishery privileges in the different Provinces of the Dominion.

The undersigned was desired to report on the subject, and after considering all of the circumstances, it is respectfully suggested that the system of leasing and licensing fishery privileges under the Fisheries Act, already introduced in the Provinces of Nova Scotia and New Brunswick, be now further extended conformably with the practice existing in the Provinces of Ontario and Quebec.

In these Provinces the system has been brought gradually into operation since the year 1856. It is confined almost exclusively to salmon and sea-trout fishery in Quebec, and to white fish and salmon trout fishery in Ontario. There is still open a large field for its extension, without encroaching on the deep sea fisheries for cod, halibut, mackerel, herring and other scale fishes.

At the date of Confederation a similar principle existed in Nova Scotia and New Brunswick, but was limited in its application to very few instances. The Provincial Government in Nova Scotia had issued one lease of oyster beds; and the Government of New Brunswick had granted one lease of salmon fishery, at nominal rents. Besides these dues on leases a small tax on salmon nets was payable to the municipal authorities; and under an Imperial grant of fishery rights in St. John Harbor, the civic corporation rented fishing berths to the local fishermen by lottery, realizing about $2,500 per annum. Also fishery rents of $598.78 per annum were paid by the salmon fishers on the Naval Reserve at Portage Island, N.B., under the title of fishing "lots" from the Admiralty, which rents were applied to local purposes. Since Confederation some special licenses for trap-nets were issued in Nova Scotia, and in New Brunswick several season licenses for salmon fishing with nets, and a few leases for salmon angling have been granted.

The *Fisheries Act* evidently contemplates the system of granting titles for fishing privileges as a basis of administration. Certain of its provisions are predicated on the supposition that leasing and licensing would become general, providing always for necessary exceptions as to legal titles, prior occupancy and preferential claims.

It is unnecessary, after several years of its beneficial operation, even though but partially carried out, to explain at length its advantages. Primarily, it systematizes the fishing business, and is auxiliary to protective measures for preserving and increasing the fisheries, and it also induces private expenditure both in guarding and improving the streams, which outlay would otherwise require to be defrayed from public funds. Secondarily, it promotes investment of capital, and gives permanence and security to fishing industries, enhancing the value of fishing privileges to both individual fishermen and the public, which hitherto had but a fitful existence and were fast becoming altogether unproductive. Revenue is only an incident and not a main object.

There were reasons of state for not superseding the Provincial Fishery Laws in Nova Scotia and New Brunswick by Dominion legislation when the Maritime Provinces were confederated. Like reasons have since prevented anything further being done beyond

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merely introducing the leasing and licensing principle into those provinces in a few instances where precedents had been set by the Provincial Governments. This Department essayed on two occasions to advance another step, but made no progress. Reference is requested to reports to the Governor General in Council, dated 22nd December, 1869, and 27th January, 1870.

Legislation is not required; no assimilation of laws is requisite. All that is necessary is, by Departmental action, to proceed with leasing and licensing fishery stations in those provinces just as has been done in Ontario and Quebec. But, as the matter has been considered in the light of a "policy," it may be deemed advisable to confirm the proposed action by an Order in Council, in the form of a Fishery Regulation, prohibiting such kinds of fishing as it is intended to lease or license, except under authority of leases or licenses. This is the same course as was pursued for Ontario and Quebec.

It may be advisable to act first on the numerous applications which are fyled, and in other instances where no adverse circumstances or conflicting demands exist. Attention should be directed to carrying out this system with every regard for the obvious desirability of enlisting the sympathies of the public and promoting the truest interests of the fishermen. There should be a thorough examination into each case; and the greatest possible care and precaution should be observed in order to avoid doing violence to the prejudices, or injury to the position and interests of persons affected thereby. Scrupulous regard will require to be paid to priority of occupation and recognized user. A careful distinction must be observed between the deep-sea and inland, and the estuary and river fishings. These latter should alone, in my humble opinion, be subjected (for the present at least) to the system of occupation under lease or license.

The undersigned considers it undesirable to anticipate the production of direct revenue from fishery rentals, the rates of which are for the most part nominal. Any system of regulation and economic use of fishing privileges under titles may be more profitably adapted as an auxiliary to protection of inland fisheries, and to enhance their productive value. It is not improbable, however, that in due course of time sufficient funds may be derived to render the service self-sustaining.

The tables appended show the numbers of leases and licenses issued and the sums derived therefrom in each of the provinces named.

I have the honor to be, Sir,

Your obedient servant,

W. F. WHITCHER,

Commissioner of Fisheries.

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SUMMARY of Leases and Licenses issued in the Provinces of Ontario, Quebec, New Brunswick, and Nova Scotia, during the year 1873.

Province.	Leases.	Licenses.	Rents and Fees.
			$ cts.
Ontario	5	316	4,477 00
Quebec	34	* 406	4,928 00
New Brunswick	3	† ..	647 00
Nova Scotia	1	4	159 00

* On the Quebec side of the River Restigouche, above the tideway, 14 other salmon licenses are issued to settlers free of charge.

† On the New Brunswick side of the River Restigouche, above tideway, 12 more licenses are issued to settlers free of charge.

The following Comparative Statement shows the receipts and expenditure since 1869 :—

STATEMENT of Expenditure and Receipts on account of Fisheries in the Provinces of Ontario, Quebec, Nova Scotia, and New Brunswick, for the Fiscal Years ending 30th June, 1869, 1870, 1871, 1872, and 1873 :—

	1869.	1870.	1871.	1872.	1873.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Fish breeding	2,961 00	2,894 00	3,873 00	3,010 00	3,600 00
Ontario.					
Expenditure	7,186 00	8,435 00	10,707 00	8,364 00	8,190 00
Receipts	2,739 00	6,165 00	5,039 00*	4,818 00	4,477 00
Quebec.					
Expenditure	17,860 00	16,410 00	16,084 00	19,537 00	19,403 00
Receipts	4,585 00	7,997 00	6,290 00	4,569 00	4,928 00
Nova Scotia.					
Expenditure	2,572 00	9,994 00	8,794 00	8,709 00	8,689 00
Receipts	5,558 00*	1,373 00†	36 00	166 00	159 00
New Brunswick.					
Expenditure	4,172 00	8,422 00	7,006 00	7,072 00	7,700 00
Receipts	848 00	1,086 00	1,042 00	942 00	647 00

* Collections on Licenses to United States Fishing Vessels, $5,558.

† Of the $1,373 Nova Scotia Receipts for 1870, $1,230 are collections on Licenses to United States Fishing Vessels.

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ADDENDA.

The Employés in the Outside Service of the Department of Marine and Fisheries numbered as follows, 31st December, 1873 :—

Superintendent of Lights, Assistant Superintendent, and Light Keepers in Ontario and above Montreal	82
Officers of Trinity House, Quebec	8
Officers of Agency at Quebec, Lighthouse Keepers, &c., below Quebec, and Lighthouse Keepers lately under charge of Trinity House, Montreal	148
Agent, Clerk, Messenger, Superintendent of Lights, Light Keepers, Fog Whistles Keepers, &c., in New Brunswick	51
Agent, Clerk, Messenger, Superintendent of Lights, Light Keepers, Fog Whistle Keepers, and Employés of Humane Establishments in Nova Scotia	115
Officers and Crews of Dominion Steamers and Vessels	123
Inspectors of Steamboats and Clerk to Chairman of Board	8
Harbour and River Police, Montreal and Quebec	69
Employés in Marine Hospitals under control of Department	49
Shipping Masters in New Brunswick and Nova Scotia, and their Deputies	8
Officers of Observatories and Meteorological Observers, &c., receiving pay	29
Harbour Masters in New Brunswick and Nova Scotia	16
Examiners of Masters and Mates and Clerk to Chairman of Board	9
Ontario.—Fishery Overseers	30
„ Guardians	28
Quebec.—Commander of *La Canadienne* and Crew:	24
Fishery Overseers	33
„ Guardians	27
Nova Scotia.—Fishery Officer	1
„ Overseers	29
„ Wardens	160
New Brunswick.—Inspector for Nova Scotia and New Brunswick	1
Clerk	1
Fishery Overseers	34
„ Wardens	40
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APPENDICES

OF THE

MARINE BRANCH

OF THE

Department of Marine and Fisheries.

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APPENDIX No. 1.

STATEMENT of Expenditure on account of Maintenance of Lights above Montreal, for the Fiscal Year ended 30th June, 1873.

TO WHOM PAID.	SERVICE.	$ cts.	$ cts.	$ cts.	$ cts.
	SALARIES AND ALLOWANCES.				
Isaac Hope	Twelve months' salary as superintendent of lights		1,200 00		
J. Norton	do as keeper of Lachine Point light ship No. 1.		450 00		
W. Shannon	do do Gross Point		435 00		
E. S. Johnstone	do do Cherry Island		447 00		
T. Hill	do do Lancaster Pier		393 00		
C. Cook	do do Gananoque Narrows		400 00		
J. Buck	do do Spectacle Shoal		560 00		
N. Orr	do do Snake Island		435 00		
F. Swetman	do do False Ducks		435 00		
W. A. Palen	do do Point Peter		435 00		
W. Bently	do do Scotch Bonnet		435 00		
R. Roddick	do do Gull Island		500 00		
G. Durnan	do do Gibraltar Point		435 00		
Geo. Thompson	do do Burlington Beach		300 00		
W. Woodall	do do Port Dalhoutie		300 00		
D. Fortier	do do Port Colborne		400 00		
F. Scolfield	do do Port Maitland		350 00		
H. H. Woodward	do do Long Point		435 00		
A. Sutherland	do do Port Burwell		320 00		
P. McIntyre	1st July to 30th September, Point Pelee Reef		65 00		
do	1st Oct. ,, 30th June, Michipicoten and Agate Island		326 25		
J. Edwards	Twelve months' salary, as keeper of Point Pelee Reef		500 00		
J. Cummins	do do Pelee Island		435 00		
A. Hackett	do do Bois Blanc		435 00		
T. Cartier	do do River Thames		435 00		
J. Young	do do Point Clarke		435 00		
D. McG. Lambert	do do Chantry Island		435 00		
V. C. Hill	do do Griffith Island		435 00		
G. Collins	do do Nottawasaga Island		435 00		
J. Hoar	do do Christian Island		435 00		
J. Prinyer	do do Point Pleasant		300 00		
P. Proulx	do do Killarney		500 00		
D. McKenzie	do do Little Current		300 00		
Charles Patton	do do Clapperton Island		350 00		
William Sheppard	do do Sulphur Island light		325 00		

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O. Modore	do	do	Light ship, Lake St. Louis	200	00
C. Vesudry	do	do	No. 2	200	00
J. Malcolm	do	do	do No. 3	225	00
Geo. Shannon	do	do Asst.	Beauharnois light	175	00
A. McDonald	do	do	Grosse Point	175	00
G. H. Johnson	do	do	McKay Point	175	00
R. Elliot	do	do	Cherry Island	300	00
A. Root	do	do	Cole Shoal	250	00
J. Wallace	do	do	Grenadier Island	250	00
J. Mervin	do	do	Lindoe Island	250	00
R. Gillespie	do	do	Burnt Island	250	00
G. B. Simpson	do	do	Wolf Island	250	00
R. K. Chisholm	do	do	Range light and buoys	250	00
H. Morgan	do	do	Oakville Pier	200	00
C. Esd	do	do	Port Dover	250	00
R. A. Lambert	do	do Asst.	Port Stanley	200	00
C. Collins	do	do do	Chantry Island	175	00
M. Leclair	do	do	Nottawasaga Island	175	00
A. Laberge	do	do	Point Clair lightship No. 2	300	00
J. Masson	do	do	Green Shoal	250	00
J. C. Darke	do	do	Telegraph Island	200	00
Wm. McGowan	do	do	Muskoka, or Fox Island	200	00
A. Mongeon	do	do	Parry Sound	300	00
L. Hudgins	do	do	Wade Shoal	100	00
R. Campbell	do	do	Salmon Point	300	00
Wm. McBeath	do	do	L'Original	300	00
J. W. Davis	do	do	Isle of Coves	100	00
A. Dunlop	do	do	Pigeon Island	735	00
J. Geegan	do	do	Nine Mile Point	300	00
B. Glode	do	do	McTavish Point	350	00
E. B. Prieur	do	do	Point Clair lightship No. 1	100	00
W. J. Sweetman	do	do	Coteau Landing	300	00
J. Burgess	1st July to 30th Sept.	do	Presqu'Isle	140	00
J. L. Burgess	1st July to 1st Nov.	do	Mohawk Island	81	25
R. H. Smithers	1st Nov. to 31st March	do	Temporary keeper	145	00
H. Fidler	1st April to 30th June	do	do	160	00
	Salary as keeper of Goderich light from 1st July to 31st March, 1873			75	00
G. N. McDonald	Salary as keeper of Goderich light from 1st April to 30th June			243	75
H. Solomon	Salary as keeper of Lonely Island from 29th July to 30th March, 1873			75	00
M. Solomon	Salary as keeper of Lonely Island from 1st April to 30th June			236	25
A. Hynes	Six months' salary as keeper of St. Ignace light			87	50
G. B. Simpson	Allowance for keeping Presqu'Isle light from 15th May to 30th June			150	00
B. Kane	Salary as keeper of Windmill Point from 26th May to 30th June			41	97
P. McIntyre	Allowance for an assistant at Michipiceton and Agate Island from 1st May to 30th June			15	00
				33	33
				23,925	20

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STATEMENT of Expenditure for Maintenance of Lighthouses above Montreal &c.—*Continued.*

TO WHOM PAID.	SERVICE.	$ cts.	$ cts.	$ cts.	$ cts.
	MAINTENANCE, REPAIRS, &c.				
Darius Smith	For wages of workmen and materials for repairs, removing and replacing of Light Vessels, &c		12,191 63		
E. Chanteloup	Lamps, lanterns, wicks, chimneys, &c., &c		3,553 41		
F. A. Fitzgerald & Co	Oil		6,796 18		
L. J. Beliveau	Paints, oil, &c		375 02		
Mitchell & Co	Supplies		2,304 03		
W. J. Meneilley	Plate Glass		42 00		
Bronsdon & Patton	do		19 80		
M. R. Mathewson	Soap, &c., &c		111 09		
Union Glass Co	Chimneys, wicks, &c		237 82		
G. S. Oldrive	Life Preservers		585 47		
E. L. Laverdure	Repairs to lamps, &c., &c		30 45		
G. Bailie	do do		10 00		
R. Lowe	Charter of *Mary Ward* delivering supplies		1,600 00		
E. D. David	Freight, storage, &c		68 83		
G. B. Simpson	Buoy service		40 00		
B. Young	do		55 00		
A. Hackett	New buoys, chains, and placing same		264 76		
L. Hudgins	Boat house for Point Pleasant Light		99 44		
D. McKenzie	A boat for Little Current Light		45 00		
P. Proulx	A boat for Killarney		38 00		
Rice Lewis & Co	A chain, &c		67 20		
M. Carter	Metallic Oil Tanks		180 00		
Anne Kane	do		64 00		
J. Geegan	A stove, &c		13 55		
O. Veaudry	do		22 50		
J. C. Darke	do		9 05		
J. W. Davis	Wood, chimneys, &c.		20 85		
Lyman Clare & Co	Chamois skins, &c		83 37		
G. B. Simpson	Lumber, &c., for Presqu'isle Light		47 11		
J. & W. Beaty & Co	Freight, &c		22 93		
W. M. Smith	Plans, tracings, &c		12 00		
G. & S. Watson	Two copper lamps for Gibraltar Point Light		167 70		
L. J. Belleveau & Co	Hardware &c		86 72		
J. Wilson	Buoys, St. Joseph's Channel, Sault St. Marie		200 00		

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J. Ryan	Repairs to dwelling, Isle Blanc	57 88
R. Young	Freight on boat to Michipicoten Light	14 35
H. H. Woodward	Oil, &c., for Long Point Light	22 40
George Durnan	Cost of fence at Gibraltar Point	79 77
S. Hurley	Lumber for Clapperton Light	94 01
F. Frederick	Plumbers work	32 70
W. A. Allen	Advertising in "Canadian Times"	18 70
London Free Press	do	35 00
Lawson McCullaugh & Co.	do "Spectator"	12 96
J. & R. White	do "Gazette"	33 60
Siddons & Dawson	do	14 00
H. Simmon	do "Brantford Courrier"	8 40
D. Creighton	do "Times," Owen Sound	9 45
Toronto Mail	do	50 40
J. H. Nicholson	do "Arnprior Weekly"	10 50
R. Stephenson	do "Planet"	36 74
Ottawa Times	do	56 95
Ottawa Courrier	do	18 60
J. Hogg	do	14 40
E. Trout	do "Trade Review"	8 00
G. W. Davis	Supplies to Goderich Light	138 83
A. Laberge	Repairs to buoys	4 00
J. C. Darke	Alteration to tower at Fox Island Light	350 00
Thos. Cartier	Keepers dwelling on River Thames	800 00
do	Building range light on River Thames	900 00
J. Primyer	Building piers, Point Pleasant	393 00
A. & H. Hackett	One-third maintenance of light ship on Colchester Reef, for season of 1872	500 00
F. Scholfield	Keepers dwelling at Port Maitland	574 00
Squires & Co	On account of breakwater at Goderich	1,200 00
H. Cunninghan	For Boats	370 00
Isaac Hope	Travelling expenses as Superintendent of Lights above Montreal	65 42
Wm. Smith	Travelling expenses, inspecting constructions	60 00
Joseph White	Inspecting Red Horse Rock Light	13 50
Rice, Lewis & Co	Glass	18 83
J. McKay	A boat	9 00
G. B. Simpson	Addition to keepers dwelling, Range Light	34 12
F. Scholfield	Allowance for rent	25 00
B. Kane	Purchase of land at Windmill Point, for Light-house	600 00
B. Billings	Service as Draughtsman	37 00
D. Smith	Sundry petty expenses	79 16
J. Crossen	Buoy castings	91 26
G. B. Simpson	Buoy laying, &c.	29 67
J. B. Bellefeuille	Keeping light ship, Lake St. Louis	58 75
J. Egan	Salary 1st July to 4th August, Lonely Island Light	32 44
G. B. Simpson	Wages for keeping Presqu'Isle Light	77 73
Mrs. Andrew Hynes	do for quarter to 31st March, St. Ignace Light	73 12
	Carried forward	

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STATEMENT of Expenditure for Maintenance of Lighthouses above Montreal &c.—*Continued.*

TO WHOM PAID.	SERVICE.	$ cts.	$ cts.	$ cts.	$ cts.
	Brought forward				
	Maintenance, Repairs, &c.—Continued.				
Mrs. Andrew Hynes	Wages from 1st April to 1st June		65 42		
do	Arrears due late Andrew Hynes		156 39		
Receiver General	Deposit of tax on late Andrew Hynes		5 88		
W. Grierson	Wages for taking care of Agate Island and Michipicoten Lights		130 30		
R. H. Smithers	Arrears as keeper of Mohawk Island Light		24 60		
Receiver General	Refund of unexpended balance		63 53		
				37,174 70	
					$61,100 00

WM. SMITH,
Deputy of the Minister of Marine and Fisheries.

OTTAWA, 30th September, 1873.

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APPENDIX No. 2.

STATEMENT of Expenditure by Trinity House, Montreal, for Fiscal Year ended 30th June, 1873.

	$ cts.	$ cts.
E. D. David, 12 months' salary as Registrar and Treasurer	1,699 00	
P. E. Cote, do do as Superintendent of Pilots	1,200 00	
L. Marchand, do do as Master	625 00	
D. Rooney, do do as Clerk	800 00	
M. Brennan, do do as Harbour Bailiff	500 00	
		4,725 00
E. D. David, Petty disbursements		118 41
P. Paralow, Stationery		194 30
H. Morgan and Co., Stores for Office		8 40
E. D. David, Arrears of Salary from 2nd February		110 00
Harbour Commissioners, Rent of Office		620 00
Commercial Insurance Company, Insurance on Office Furniture		6 25
		5,782 36

WM. SMITH,

Deputy of the Minister of Marine and Fisheries

OTTAWA, 30th September, 1873.

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APPENDIX No. 3.

STATEMENT of Expenditure in connection with Maintenance of Lights between Quebec and Montreal for the fiscal year ended 30th June, 1873.

	$ cts.	$ cts
E. D. David, salaries of light keepers	4,213 45	
do wages and board of crew of steamer "Richelieu"	2,131 22	
Frothingham and Workman, iron, hardware, &c., &c	4,680 31	
A. Bartelance, buoys and repairs to "Richelieu"	2,151 67	
G. & J. Groves, crockery for "Richelieu"	20 75	
Captain Cotte, disbursements account, "Richelieu"	162 25	
P. Dauphinel, hauling out do	38 11	
J. Duval, wood for do	38 00	
M. C. White, repairs to do	2,000 00	
British A. A. Co., insurance on do	144 00	
H. & H. Merrill, blankets for do	43 95	
Morgan & Co., stores for do	24 75	
N. Poulet, do do	203 51	
Captain Nand, disbursements, do	100 00	
Coalthurst & M'Phee, coal for do	1,432 69	
G. H. Bramblay, raising "Richelieu" and disbursements	297 41	
G. H. Hulbard, marine glass, "Richelieu".	15 00	
A. Cantin, docking do	844 90	
Bombriant & Bellerose, weights for buoys and repairs "Richelieu"	777 54	
P. S. Ross & Bros., stores for "Richelieu"	170 13	
D. & J. McLaughlin, buoys and work to "Richelieu"	2,166 03	
J. Sheridan, building room, Isle la Pierre Light	550 00	
O. Letendre, taking down and putting up Isle au Raisin Light	30 00	
E. Garth & Co., tubes for buoys, &c	217 60	
J. H. Hamelin, going to see after dredge	25 00	
D. Mellieur, buoys, &c	316 60	
F. A. Fitzgerald & Co., oil	635 08	
Sincennes & M'Naughton, use of barge and steamer	1,051 25	
J. Henry, storage of oil	39 86	
Union Glass Co., glasses, wicks, and burners	24 47	
Dyde & Magor, storage of lamps	12 50	
J. Jacques, repairs to Grondines Light	109 50	
P. Larkin, wood for harbour lights	22 00	
Richelieu Co., freight, &c., lights, Sorel	147 66	
A. Portilance, three iron buoys	450 00	
R. J. Hayden, surveying port Isle à la Pierre	42 25	
J. Fairn, lamps, &c	14 08	
Duvernay Freres, advertising La Minerve	45 60	
T. M. Bryson, storage, island wharf lights	40 00	
F. Brodeur, repairs, Isle St. Teresa	9 30	
Gibb, Hunter & Doucett, professional services	12 00	
O. Naud, outfitting	73 95	
D. Meilleur, placing buoys	31 50	
G. Wait, taking down and putting up island wharf	68 88	
E. Paul, alterations to Isle de Grace Light	17 00	
O. Beaudet, raising Lotbiniere Lighthouse	20 25	
H. Brossard, alterations to Port St. Francis Lighthouse	67 10	
Dufresne & McGarity, groceries	97 85	
N. Dorval, erecting beacon, Cap de la Magdalen	44 39	
E. Atwater & Co., paints, glass, &c	185 80	
J. Lovell, printing and advertising	44 95	
H. M. Perrault, professional services	185 50	
G. Raymond, putting up Beacon Dechambault	50 00	
A. Desforges, boat for No. 2 Floating Light	35 20	
E. Paul, wood for light vessels	78 00	
Catharine Blais, repairs to L'Islet Lighthouse	26 00	
H. Brossard, repairs to Port St. Francis Lighthouse	15 00	
B. St. Pierre, erecting beacon, Beaucœur	76 00	
J. B. C. dit Larose, alterations to Lighthouse, Isle aux Pins	41 75	
H. Piche, Board Captain Cotte, Sorel	25 25	
Carried forward		

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STATEMENT of Expenditure in connection with Maintenance of Lights, &c.

	$ cts.	$ cts.
Brought Forward	.....	.....
E. Courchaine, tinsmiths work at Sorel	16 62	
J. Ostell, boxes of stoves	15 00	
P. E. Cotte, travelling expenses, &c.	91 95	
J. B. Lachapelle, cedar for buoys	302 25	
J. Sheridan, raising Lighthouse, Isle de Grace	380 00	
A. G. Nish, work to beacons	34 66	
D. Giguere, building house at Lavaltrie	447 25	
L. Jones, use of steamer, Richelieu River	25 00	
Tow Boat Co., boat to River des Prairie	84 00	
N. La Croix, Ice fender, Isle aux Prunes	550 00	
L. Rodrigue, tinsmiths work	13 05	
M. Champagne, removing boulders at St. John	255 25	
Joseph Ethier, cedar to buoys	234 50	
Bethune & Bethune, services as solicitors	79 56	
J. & R. White, advertising	30 74	
G. H. Bramley, salary, Acting Harbor Master, Sorel	300 00	
do do do petty disbursements	79 58	
Holt, Irving & Pemberton, professional services	85 00	
C. Langlois, cartage	9 20	
G. Wait, putting up and taking down island wharf light	40 00	
Commercial Insurance Company, insurance on Lavaltrie Lighthouse	11 00	
H. Piche, board Capt. Cotte, Sorel	66 25	
Capt. L. Jones, maintenance, Lights, River Richelieu	325 00	
J. Small, visiting small craft, to enforce law with respect to lights	30 00	
J. B. & L. Ladebouce, making reports, depth of water, Lake St. Peter, 1872	100 00	
J. Hervey, storage of oil	16 90	
G. de Lauondiere, ⅔ share rent of Lavaltrie	22 50	
P. S. Ross Bros., stores for light vessels	89 02	
Prowse Bros., tanks and tinsmiths' work	13 70	
E. Chanteloup, lamps	141 40	
Perrault & Boivenieau, stone weights for buoys	152 50	
E. D. David, petty disbursements	267 16	
	30,943 23	
To amount transferred from construction of lights between Quebec and Montreal.	199 91	
		31,143 14

WM. SMITH,
Deputy of Minister of Marine, &c.

OTTAWA, 30th September, 1873.

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APPENDIX No. 4.

REPORT OF THE TRINITY HOUSE OF QUEBEC FOR THE FISCAL YEAR ENDED 30TH JUNE, 1873.

The Board held eighty sittings during the year.

Sundry references from the Government of the Province of Quebec, applications for beach and water lots, &c., within the Port of Quebec, were submitted to the Board and reported upon.

REGISTRATION OF BATTEAUX.

In conformity with the provisions of the Bye-law passed by this Corporation on the 3rd May, 1872, and sanctioned on the 1st June following, 177 Batteaux were numbered and registered by the Secretary-Treasurer.

JUDICIAL PROCEEDINGS.

Twenty-six cases of prosecutions against Pilots and others for infringement of the Pilot and Harbor Regulations were brought before the Board and adjudged upon.

SALVAGE.

Eighteen salvage cases were submitted to the arbitration of the Trinity House and awarded upon.

PILOTS.

During the year six Pilots have been pensioned and four have died, leaving the number on the active list on the 30th June last, 218, including five temporarily suspended, four on sick list, three in charge of Steamers and three in charge of Lighthouses and Ships.

APPRENTICE PILOTS.

One apprentice was branched.

There are now thirty-nine apprentices serving their time under the Corporation of Pilots, and three old apprentices remanded for further examination.

WRECKS.

The only wreck in the River below Quebec, which offers a serious obstruction to the navigation, is the *Annette*, lying off Pt. St. Roch in the South Traverse, in about three fathoms water—low water.

In accordance with instructions from the Department of Marine and Fisheries, tenders were invited for the removal of this wreck. One only was received, and the sum of $80,000 was asked for the performance of the work.

The wrecks *Medina* and *Preciosa* are not now impediments to the navigation, as they are covered with a sufficient depth of water to allow vessels of large tonnage to pass over them, and are, besides, indicated by buoys as a caution to vessels passing up and down the river not to anchor near them, for fear of hooking their anchors to the remains still adhering to the bottom.

During the last winter, the masts, and spars and remains of the *Chryseis*, lying off St. Jean Port Joli, having been carried away by the ice, this wreck no longer forms an obstruction to the navigation.

LOST ANCHOR AND CHAINS.

Several vessels have again this year dropped anchors and chains in different parts of the Harbour and Rivers, viz :—

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Below Quebec.

The ship	*Laurel*	1	anchor and	15	fathoms	chain.
„	*Paragon*	2	„	50	„	„
„	*Contest*	2	„	45	„	„
„	*Underwriter*	2	„	120	„	„
„	*Nelson*			70	„	„

In the Harbor.

The barque	*Marion*	1	anchor and	45	fathoms	chain.
„	*Clydesdale*	1	„	30	„	„
„	*Ragner*	1	„	20	„	„
„	*Bomerang*	1	„	45	„	„
The schooner	*Steward*	2	„	95	„	„
The barque	*Wolfville*	1	„	8	„	„

which, if not removed, will tend to form new obstructions to the navigation.

A sum of money ($10,000) has been voted by Parliament for the removal of such obstructions within the Harbor, but is found to be far under the cost of the work.

Harbor Office.

Nine hundred and eighty-six reports of arrivals of ships in the Harbor were received and reported at this office.

Reports were also received of the following effects picked up and saved within the Port of Quebec, viz:—

Drift Timber	2,062 pieces.
Boats	22
Anchors	5
Chains	4

Printed extracts from the Bye-laws and Harbor Regulations were put on board 559 vessels on their arrival in the Harbor.

Returns of thirty-one casualties in shipping were received, recorded, and copies thereof forwarded to the Department of Marine and Fisheries.

Superintendent of Pilots' Office.

Reports from Pilots' office were received at this Office and recorded, viz.:—

Of Pilotage up the River	1,341.
„ down „	1,327.

Two trips were performed by the Apprentice Pilots in the exploration of the North Channel of the River St. Lawrence, under the guidance of the Superintendent of Pilots.

The Pilot Act of 1873 does away with the above service; the apprentices will, therefore, be deprived of the assistance heretofore given them by the Superintendent of Pilots, in regard to both the North and South Channels of the River.

Decayed Pilot Fund.

Number of Pensioners on the fund on 31st December, 1872:—

Decayed Pilots	45
Widows of Pilots	92
Children of Pilots	39
Total	176

Number of Pilots relieved ... 12

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Total receipts for the fund during the year ended 31st December, 1872 :—

Poundage	$7,930 35
Capital and Interest on Loans	5,053 30
Fines	100 00
Total	$13,083 65

Payments out of the Fund.

Pensions	$10,762 41
Relief	636 00
Disbursements	505 62
Total	$11,904 03

State of the Quebec Decayed Pilot Fund on 31st December, 1872 :—

Money lent	$57,089 54
Interest due	282 32
Cash on hand	3,498 31
	$60,870 17
Deduct Arrears of Pensions due	457 97
Total	$60,412 20

RECEIPTS AND EXPENDITURE OF THE TRINITY HOUSE OF QUEBEC, DURING THE YEAR ENDED 30TH JUNE, 1873 :—

Receipts.

Amount received from the Public Chest through the Department of Marine and Fisheries	$8,021 00
Proceeds of sale of unclaimed timber	34 16
Total	$8,055 16

Expenditure.

Salaries of House Officers and Employés	$6,653 00
Superannuation Tax	242 00
Contingencies	615 82
Harbor Office	458 34
Paid to Hon. Receiver-General	34 16
Wreck *Annette.*	51 84
Total	$8,055 16

TRINITY HOUSE, QUEBEC,
23rd September, 1873.

(Signed) A. LEMOINE,
Secretary-Treasurer.

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EXPENDITURE by Trinity House, Quebec, for the Fiscal Year ended 30th June, 1873.

	$ cts.	$ cts.
A. LeMoine, 12 months' salaryas Secretary-Treasurer	1600 00	
Vital Tetu, 12months' salary as Master	1000 00	
F. Gourdeau, 12 months' salary as Harbor Master	1600 00	
John Smith, 12 months' salaryas Superintendent of Pilots	1200 00	
A. Lindsay, 12 months' salary as Assistant Secretary-Treasurer	1200 00	
P. Chatigny, 12 months' salary as Messenger	120 00	
J. Eden, 12 months' salary as Harbor Master, Gaspe	124 92	
J. Cassidy, 12 months' salary as Harbor Master, Amherst	49 92	
C. Sullivan, 11 months' salary as Assistant Harbor Master	458 34	
		7353 18
E. Pelletier, Professional Services	25	
Alleyn and Creveau, Professional Services	121 15	
Langlois, Augus & Co., Professional Services	35 90	
F. Healy, Map of Dominion	2 50	
P. Chatigny, Petty Disbursements	165 72	
L. Huot, Year's Subscription, "La Canadian"	4 00	
J. J. Foote, Advertising Bye-Laws	137 84	
Penny, Wilson & Co., Advertising Herald	6 00	
A. Cote, Publishing Bye-Laws	82 72	
T. Chartre, Stovepipes	12 65	
Daw & Jarvis, New Lead Line	2 70	
F. Gourdeau, Travelling Expenses	11 10	
S. H. Huot, Printing	31 84	
J. Smith, on account Travelling Expenses	4 30	
Queen's Printers, Subscription Official "Gazette"	5 00	
Arel & Co., Repairing Chair	5 00	
G. J. Carey, Advertising	14 40	
		667 82
Total		$8021 00

WM. SMITH,
Deputy of the Minister of Marine and Fisheries.

OTTAWA, 30th September, 1873.

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APPENDIX, No. 5.

STATEMENT of Expenditure on account of the Dominion Steamers, for the fiscal year ended 30th June, 1873.

"NAPOLEON III."	$ cts.	$ cts.	
Captain Gourdeau, 12 months' salary as captain	900 00		
J. U. Gregory, wages of officers and crew	5,583 30		
		6,483 30	
L. Marois, provisions	310 73		
L. Arel do	1,249 38		
R. and R. M. Shaw, provisions	292 66		
J. Eden do	165 93		
Nolan & Co. do	162 07		
L. M. Marchand do	46 73		
Mrs. Powell do	26 25		
T. H. Green do	17 82		
M. Plumandon do	47 69		
H. Laflamme do	281 90		
J. B. Thibedeau do	9 70		
		2,610 86	
Archer & Co., repairs	35 00		
L. Gagne do	780 77		
J. Marmen do	85 71		
F. N. Marchand do	6 08		
J. Peters do	110 84		
L. Guerard do	58 00		
J. M. Jardivel do	196 15		
G. Phillips do	501 95		
G. Bisset do	687 15		
H. T. Chaloner do	60 00		
T. Robertson & Co., repairs	46 72		
Tweedell & Campbell do	5 40		
Ross & Co. do	22 00		
L. Villeneuve do	9 90		
B. Huot do	38 60		
T. Drysdale do	55 25		
W. Barbour do	428 75		
C. & W. Wurtell do	20 39		
S. Bedard, repairs	184 87		
Archer & Co., repairs	32 35		
		3,365 88	
Crawford & Son, Coal		1,372 47	
T. Giblin, do		806 00	
W. Barbour, coaling		160 85	
S. J. Shaw, ship stores		227 79	
A. Gilmour, wintering		78 60	
M. Blais, do		50 00	
D. Morgan, uniforms		114 90	
Renfrew & Marcou, uniforms		30 00	
Mrs. Rouillard, washing		132 00	
R. Borland, moorage		8 50	
A. Fraser & Co., do		36 00	
Hamel & Freres, clothing		217 34	
F. O. Valleraud, chimneys, &c.		15 15	
Dinning & Webster, cotton waste		15 86	
J. Groud & Freres, medicines		11 85	
L. Guerard, cushions		14 30	
R. Blakeston, sails		80 01	
M'Catey, Dolbec & Co., glasses		10 50	
T. Berrigan, cartage		10 00	
C. & W. Wurtell, anchor		80 50	
E. E. Buteau, petty disbursements		388 80	
			15,821 46
Carried forward			15,821 46

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STATEMENT of Expenditure on account of the Dominion Steamers, for the fiscal year ended 30th June, 1873—*Continued.*

	$ cts.	$ cts.	$ cts.
Brought Forward.....	.....	.....	15,821 46
"DRUID."			
Captain Marmen, 12 months' salary as captain	900 00		
J. U. Gregory, pay list of officers and crew	4,289 11		
		5,189 11	
L. Marois, provisions.....	303 52		
F. Plamondon, do	34 36		
L. Arel do	1,105 64		
R. & A. M. Shaw do	232 30		
Nolan & Co. do	118 37		
R. & R. M. Call do	551 44		
J. Morin do	95 00		
F. Laflamme do	218 55		
Archer, Leduc & Co. do	15 50		
M. Dickey do	17 70		
J. B. Thibedeau do	9 40		
Mrs. Powell do	32 65		
C. Barley do	11 30		
		2,745 73	
G. T. Davis repairs.....	435 00		
Tweedell & Campbell do	160 00		
C. & W. Wurtell do	558 98		
Carrier, Lane & Co. do	1,416 46		
S. Bedard do	143 06		
P. Whitty do	187 78		
B. Huot do	78 30		
H. Talbut & Co. do	9 00		
J. M. Tardivel do	119 30		
J. Roche do	140 90		
L. Gagne do	1,017 10		
J. Peters do	14 83		
G. T. Phillips do	302 25		
G. Bissett do	161 86		
Archer & Co. do	22 00		
S. J. Shaw do	22 60		
L. Velleneuve do	36 25		
S. Carroll do	381 30		
		5,206 27	
Mrs. Foster, sewing	.....	10 85	
Mrs. Rouillard, washing	.....	132 00	
J. Marmen, cartage.....	.....	122 20	
Middleton & Dawson, stationery	.....	0 90	
C. Poston coal.....	.....	311 25	
Crawford & Son do	.....	101 50	
A. D. Sheriff do	.....	180 00	
J. Giblin do	.....	432 00	
D. Morgan, uniforms	.....	114 89	
Renfrew & Marcou, uniforms	.....	27 50	
Hamel & Freres, clothing	.....	176 71	
F. O. Valleraud, chimneys, &c	.....	8 15	
Captain Marmen, pilotage	.....	14 00	
Dinning & Webster, cotton waste.....	.....	28 38	
Parke & Son, rags	.....	9 03	
A. Fraser & Co., moorage.....	.....	4 00	
R. Blakeston., sails.....	.....	32 80	
J. Kerr, glass	.....	3 12	
J. Glassford, screws.....	.....	31 50	
W. Drum, pillows	.....	21 00	
J. M. Tardivil, painting	.....	8 00	
R. Turner, brushes.....	.....	10 00	
McCahey, Dolbec & Co., glassware.....	.....	20 70	
J. Boin, sundries.....	.....	5 00	
C. Lamson, do	.....	8 32	
E. E. Buteau, petty disbursements	.....	350 95	
			15,306 56
Carried forward.....	.....	.....	31,128 02

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STATEMENT of Expenditure on account of the Dominion Steamers, for the fiscal year ended 30th June, 1873—*Continued.*

	$ cts.	$ cts.	$ cts.
Brought Forward.....	.....	.....	31,128 02
"LADY HEAD."			
H. W. Johnston, pay list of officers and crew.....	.....	7,808 37	
Lordly & Stimpson, provisions	167 88		
T. N. Wilson do	24 50		
James Scott do	508 77		
J. Parker & Son do	662 80		
G. J. Hamilton do	39 56		
H. & W. Meagher do	165 11		
G. Hutchings do	44 79		
W. H. Joes & Co. do	424 24		
Hon. W. Muirhead do	130 83		
W. H. Naufts do	327 98		
G. Matson do	21 88		
J. J. Scriver do	126 02		
H. Cook do	150 00		
R. J. Sweet do	81 63		
Mrs. Savage do			
Brackett & Duffy, do	4 90		
D. Ross do	24 90		
A. Kane do	2 50		
	1 68		
		2,909 97	
Extraordinary Repairs.			
Cochran & Rogerson, figure head.....	130 00		
J. E. Turnbull, mouldings.....	61 00		
J. B. Beatty, sawing timber.....	119 21		
J. Harris, castings.....	244 78		
A. Rowan, plumbing	558 87		
Allan Bros., castings.....	416 86		
G. Fleming & Sons, repairs to boiler.....	339 74		
W. Ring, lumber.....	112 08		
J. Mullally, cartage	16 40		
Z. G. Gable, rubber hose.....	149 15		
J. & T. McAvity & Sons, hardware	931 15		
Leonard & Wetmore, lumber.	2,379 90		
Thurston & Co., carpets	94 22		
A. Quick, ship chandlery	140 46		
R. A. Knight, white lead.....	478 60		
R. P. & W. F. Starr, coal	120 75		
E. Ross, oars	8 88		
G. Hutchinson, sundries	26 26		
S. Tufts, provisions, men	74 49		
J. E. Tool do	5 60		
Coughlan & Co. do	139 91		
A. Warner, board of crew.....	74 38		
A. Wells, barometer	16 50		
C. H. Wright & Co., compass.....	35 00		
C. J. Berryman, sundries.....	1 75		
W. Ring, wages of workmen.....	512 67		
		7,188 61	
M. Phelan, priming, &c.....	183 76		
J. Hoyt coal	224 00		
R. R. Call do	469 03		
Acadia Coal Co. do	1,143 20		
Pryor & Davis do	315 50		
H. Roche, jun., coal	507 88		
J. Stairs, olive oil	139 45		
G. Rent, jun., tinware	23 01		
D. McArthur, water.....	6 00		
J. O. Brown, lettering	4 80		
J. Hunter, water closet	49 50		
Mrs. Wells, washing	3 00		
J. P. Mott, soap, &c.....	133 96		
Fraser, Reynolds & Co., white lead, &c.....	195 52		
Carried forward.....	3,606 62	17,906 95	31,128 0

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STATEMENT of Expenditure on account of the Dominion Steamers, for the fiscal year ended 30th June, 1873.—*Continued.*

	$ cts.	$ cts.	$ cts.
Brought forward			31,128 02
Forsyth & Co., castor oil, $80; Black Bros. & Co., paint, $34	114 00		
T. Forham, sails, $76.69; E. Albro & Co., anchor, $76.44	153 13		
D. Murphy, mountings	3 05		
Chebucto M.R.R., use of Marine R.R., $617.70; G. Matson, boat, $40	657 70		
G. Matson, repairing barometer, $5; F. W. Fishunck, freight, $21.32	26 32		
J. G. Lawrence & Co., furniture	229 87		
J. R. Jennett & Co., chinaware	39 40		
Lawson, Harrington, & Co., astral oil	7 00		
T. A. DeWolf & Son, towage	8 00		
W. Murray, wheelbarrow, $26.75; J. Stairs, olive oil, $135.55	162 30		
Black Bros., linseed oil, &c., $36.43; J. Hogan & Sons, lumber, $1.98	38 41		
W. S. Symonds & Co., repairs, $683.01; Fanny Mills, washing, $16.36	699 37		
E. Bowes, ice, $8; Blanchard & Meagher, legal services, $7.50	15 50		
B. Godkin, uniforms, $33; R. H. Cogswell, rating chronometer, $4	37 00		
S. W Maroin, tin work	78 21		
J. Holloway & Son, mast hooks	1 75		
A. Robinson, ironwork, $14.03; J. Hunton, steam gauge, $21..	35 08		
A. & H. Creighton, charts	10 76		
W. Montgomery, repairs to boiler	429 97		
M. F. Fager, drugs, $4; S. Crawford, oil, $17.63	21 63		
J. R. Goold, signal lights	36 56		
Ingard & Muirhead, lamps, &c	3 15		
Crossland & Burpee, olive oil	170 50		
W. Montgomery, iron buckets	23 00		
C. Neal, removing stores, $50; J. Stairs, putty, &c., $33	83 00		
P. Judge, water, $24.80, W. H. Naufts, stores, $80.72	105 52		
Lordly & Stimpson, stores	29 65		
C. Hutchinson, sundry repairs	6 90		
J. Hunter, sundry repairs	154 85		
J. Waddell, freight on coal	38 13		
W. H. Greene, cartage on coal	5 80		
G. Matson, sundry disbursements, $144.96; P. A. Scott do $123.54	268 50		
		7,092 62	
"SIR JAMES DOUGLAS."			24,999 57
Capt. W. B. Clarke, 12 months' wages as captain	1,440 00		
do pay list of officers and crew	4,080 00		
		5,520 00	
G. W. Booth, victualling officers and crew		2,100 00	
Dunsman, Diggle & Co., coal		3,360 50	
Wellington Coal Co., coal		1,050 50	
Vancouver Coal Co., coal		243 37	
T. G. Askin, sundries, $35; J. Holden, hardware, $40.85	75 85		
P. McQuade & Co., paint, &c	1,164 36		
E. Harrison, sundry repairs,	39 00		
G. T. Walker, nails, &c., $86.25; G. T. Seymour, iron chains, $15.	101 25		
T. N. Hibbon & Co., stationery	18 50		
Robertson & Co., iron work, $4.50; Capt. Clarke, iron work, $30.95	35 45		
E. Marvin, hardware, &c., $382.04; J. Spratt, labour, &c., $541.91.	923 95		
J. Dickson, stove pipe, $15.50; S. Sea, carpentering, $200.50.	216 00		
Burns & Edwards, oil cloth, $45; Hibbins & Co., stationery, $15.50.	60 50		
T. H. Long & Co., advertising, $4; D. W. Higgins, advertising, $5,	9 00		
J. A. Rymer, use of wharf, $20; M. Richards & Co., iron, $47	67 00		
Stafford & Hickson, tallow	25 00		
John Dixon, copper pipe, &c	71 90		
Hudson Bay Co, rubber packing	87 00		
J. Rodelle, rope, $37.50; G. H Booth, sundries, $30.75	68 25		
J. G. Aiken, fuel, $6; Sproat & Co., fuel, $5	11 00		
J. Murphy, labour, $2.50; Capt Clarke, sundry repairs, $49.68	52 18		
T. C. Jones, sundries, $15; E. Harrison, sundries, $6	21 00		
Hibbon & Co. charts, $6; H. E. Beckwith, globes, $15	21 00		
Captain Cooper, sundries	20 00		
J. W. Pierce, sundry expenditures for month July, 1872	622 16		
		3,710 35	
			15,984 72
Carried forward			72,112 31

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STATEMENT of Expenditure on account of the Dominion Steamers, for the fiscal year ended 30th June, 1873.—*Concluded.*

	$ cts.	$ cts.	$ cts.
Brought forward			72,112 31
GENERAL ACCOUNT.			
J. U. Gregory, 12 months' salary as agent	1,600 00		
E. E. Buteau, do do clerk	600 00		
L. A. Blanchett, do do clerk	600 00		
		2,800 00	
Mitchell & Co., coal, $10,080 ; Crawford & Co., coal, $765.75		10,845 75	
J. Eden, coal, $280 ; J. Marmen, coal, $12.50		292 50	
L. Gagne, piling coal, $137.90 ; do repairs to wharf, $278.91		416 81	
J. Bovin, supplies, $31.20 ; J. Marmen, cartage, $14.75		45 95	
L. H. Huot, printing, $40.40 ; Mitchell & Co., supplies, $626.15		666 55	
M. Paradis, butter, $290.89 ; Mrs. Tetu, provisions, $36.49		327 38	
R. & R. M. Shaw, provisions		226 35	
Fitzgerald & Co., oil, $195.50 ; Hamel & Freres, dry goods, $126.56		322 06	
H. Labell & Co., bags, $8 ; J. Fraser, freight, $31.90		39 90	
J. B. Chounard, freight on coal		472 00	
J. Carroll, printing, $37.50 ; Iron Clad Paint Co., paint, $54.88		92 38	
D. Davidson, nautical instruments		829 66	
J. M. Tardivil, painting		7 50	
J. Marmen, firewood, cartage, &c		129 05	
W. A. Campbell, coffee, $99.35 ; Archer & Co., lumber, $91		190 35	
J. Eden, wharfage of coal		212 00	
Middleton & Dawson, stationery		71 97	
Montreal Telegraph Co., telegraphs		51 81	
Gibb, Laird, & Co., provisions		1,904 71	
P. Johnston, provisions, $14.08 ; P. Paquet, provisions, $12.50		26 58	
T. S. Colligan, stationery		16 10	
Allan, Rae, & Co., freight		5 13	
J. Berrigan, carting snow, $20 ; C. Wray, sawing wood, $11		31 00	
L. Guerard, repairs to wharf		15 00	
Grand Trunk Railroad, freight		13 55	
Cassault & Langlois, legal services in *re* the "*Queen Victoria*"		419 12	
E. E. Buteau, sundry disbursements		158 87	
			20,630 03
			92,742 34

WM. SMITH,
Deputy of Minister of Marine, &c.

OTTAWA, October, 1873.

Statement of Expenditure on account of Subsidies for the fiscal year ended 30th June, 1873.

	$ cts.	$ cts.
Quebec and Gulf Ports Steamship Company :—		
Maintenance of steam communication between Quebec and the Maritime Provinces	15,000 00	
Prince Edward Island Steam Navigation Company :—		
Maintenance of steam communication between Charlottetown and Pictou	1,557 34	
		16,557 34

WM. SMITH,
Deputy Minister of Marine, &c.

OTTAWA, October, 1873.

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APPENDIX No. 6.

REPORT OF THE AGENT AT QUEBEC OF THE DEPARTMENT OF MARINE AND FISHERIES FOR THE YEAR ENDED 30TH JUNE, 1873.

QUEBEC AGENCY OF THE DEPARTMENT OF MARINE AND FISHERIES,
23rd September, 1873.

To the Honorable P. MITCHELL,
Minister of Marine and Fisheries, Ottawa.

SIR,—I have the honour to transmit the Annual Report of this Agency of the Department for the fiscal year ended the 30th June, 1873.

The important improvements to navigation you are annually effecting by the establishment of the many new Light Houses, with those already in operation in my district, with Steam Fog Alarms, the management of the Dominion Steamers, Buoys and Beacons, humane establishments for distressed seamen, River Police, and Marine Police for the protection of the Fisheries and Fish-breeding establishments, and such other matters as may be required to be attended to here, fully occupy the time of myself and staff.

The total amount expended during the year ended 30th June, 1873, was as follows:—

Maintenance of Lights, Buoys and Beacons	$65,545 00
Constructing do do	26,300 00
Dominion Steamers	51,753 18
River Police	18,200 00
La Canadienne	7,800 00
Marine Police	6,200 00
Fish Breeding	1,500 00
Total	$177,298 18

In looking over the statements of the multifarious services performed by this Agency, I am impressed with the fact that my duties would have been attended with much difficulty had I not experienced at your hands as well as from your efficient Deputy that practical knowledge brought to bear in directing me, and I beg most respectfully to tender my thanks for the continued courtesy and promptness with which you have ever answered all communications and enquiries connected therewith.

I have also much pleasure in stating that the *esprit de corps* you have created among the employés of your Department at Ottawa has been extended by them to me, and I have to thankfully acknowledge to those gentlemen my appreciation of many acts of kindness in facilitating the discharge of my duties.

To the officers under my control I am also indebted for the willing and active manner in which they have carried out your instructions conveyed through me.

Under their respective headings, I will endeavour to lay before you details of the several services performed, with statements of the expenditure.

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COAST AND RIVER SERVICE.

Lighthouses, Fog Alarms, Provision Depôts, Buoys and Beacons.

(For further description see List of Lights in the Dominion of Canada.)

The District under the supervision of this Agency comprises the Lighthouses on the Richelieu River between St. John's and the boundary line, and those from the Harbour of Montreal to Platon, above Quebec, formerly under the control of the Montreal Trinity House, and Portueuf to the Straits of Belle Isle, including Labrador, the north shore of Newfoundland, the Magdalen Islands, Gaspé Bay and the Bay of Chaleur, and comprises now in operation, 94 Lighthouses, 8 Light-ships, 6 Steam Fog Alarms, 8 Fog Cannons, 51 Buoys in the River St. Lawrence, below Quebec, 10 in the River Saguenay, 3 in Gaspé Bay, and those at the Magdalen Islands, 55 Beacons, 7 Provision Depots for distressed seamen, and the following Lighthouses in course of construction, and which, before my next report, will be in operation, viz. :—Point St. John's, Island of Orleans, Metis, Rimouski, Point Macquereau, Bonaventure, Cape Despair, Gaspé, Entry Island, Magdalen Islands, and White Head, near Perce, Gaspé.

During last season I personally visited the lights between Quebec and Egg Island, all of which I found in excellent order, those further off were inspected by Captains Marmen, and Gourdeau, and Mr. Barbour, and all necessary repairs and improvements for their proper maintenance was attended to. All the lighthouses in the lower part of the district have been supplied with lightning rods and otherwise protected from fire, and in several instances they have been stayed with wire rigging to strengthen the towers against the effect of storms. Buoys to aid in saving life have also been provided, and medicine chests and fresh provisions and clothing furnished to the keepers of the different depots. All these lighthouses are supplied with spare panes of lantern glass and storm frames in case of accident. The steamers were fully occupied, and heavily laden with supplies on their several trips. The two annual visits, instead of one, as formerly, has been attended with great advantage to this service, thereby enabling me to provide on the second trip against any special wants found on the first, and which could not be attended to on the spot. The oil furnished by the contractors, Messrs. F. A. Fitzgerald and Co., was of good illuminating and durable quality. The chimneys and wicks furnished by Messrs. E. Chanteloup, of Montreal, and F. O. Vallerand, of Quebec, were of the best quality. I find now the keepers understand their management, that the powerful circular lamps furnished by Mr. Chanteloup are superior to any yet tried, and would recommend their general adoption when powerful light is necessary. Masters of vessels have mentioned the great advantage during fogs and snow-storms they have experienced from the warnings of the steam fog alarms and guns.

The Lighthouses formerly under the Montreal Trinity House, I personally visited this season, with the view to placing them under the same rules as those under my supervision heretofore, and embodying the remarks connected with each in this report. The Lighthouses on the north shore of New Brunswick, were supplied with oil by the steamer *Napoleon III* on the first trip this season.

Lighthouses between St. John's, Province of Quebec, and the Boundary Line.

Owing to press of business, I was unable to spare the time necessary to visit those lights on the Richelieu between St. John's and the boundary line which, I understand, have been looked after by Capt. Jones, of St John's.

North of Halfway Point.

Fixed white catoptric light, two mammoth flat-wick lamps with reflectors. The light is five miles from St. John's, on south side of river, leads between Halfway Point and Isle Aux Noix.

D. Menard, Keeper.

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ST. VALENTINE.

Fixed white catoptric light, two mammoth flat-wick lamps with reflectors. The light is eleven and a half miles from St. John's, and six and a half miles from north of Halfway Point, leads across the river at foot of Isle Aux Noix.

P. MARTIN, Keeper.

LACOLLE.

Fixed white catoptric light, two mammoth flat-wick lamps with reflectors. The light is seventeen and a half miles from St. John's, and six miles from St. Valentine, leads between Lacolle and St. Valentine.

W. H. VANSLICK, Keeper.

ASH AND BLOODY ISLAND.

Are both temporary lights at present. Lanterns on tripods and are intended to indicate the Islands and to enable vessels to clear them, being very dangerous points for vessels navigating the river at night.

LIGHTHOUSES AND LIGHT-SHIPS FROM MONTREAL HARBOUR TO QUEBEC.

I have to render thanks to Mr. Whitney, of the Montreal Harbour Commission, for his courtesy and readiness to render any service in his power; also to Mr. Rooney, formerly in the employ of the Montreal Trinity House for the kind and prompt manner in which he has supplied me with details connected with the Lighthouses formerly under that corporation. Mr. Bramley, Harbour Master, Sorel, and Capt. Cotte, of Montreal, also furnished me with much valuable information regarding the service between Montreal and Quebec. The Lighthouses above Quebec will nearly all require a couple of panes of spare glass each in case of accident.

MONTREAL HARBOUR.

Latitude N. 45° 30′ 0″; Longitude W. 73° 33′ 14″.

The lights at this point consist of two fixed red lights seventy-three yards apart to indicate the deepest channel to and from the harbour, one being thirty-eight and the other twenty-nine feet above high water-mark. The lighting apparatus consists of one catoptric mammoth flat-wick lamp in each tower, with sixteen inch reflectors, and both consume about 100 gallons of oil per season; both are in charge of William Jeffs, and kept in good order.

POINTE AUX TREMBLES.—NORTH SHORE.

Latitude N. 45° 38′ 26″; Longitude W. 73° 29′ 20″.

Two fixed white catoptric lights, 600 yards apart. The lighting apparatus consists of one mammoth flat-wick lamp, with sixteen inch reflectors on each tower. Size of glass 33 × 36 × ¼, and 30 × 33 × ¼. Consumes about 100 gallons of oil per season. Requires some repairs to the fence, which will be made this season.

ANTOINE LAMOUREUX, Keeper.

ST. THERESE.—NORTH SIDE, ON THE ISLAND.

Latitude N. 45° 41′ 22″; Longitude W. 73° 27′ 40″.

Three fixed white catoptric lights, 220 yards apart. The lighting apparatus consists of three flat No. 1 lamps with fifteen inch reflectors, and consumes about seventy gallons of oil per season. Size of glass 34 × 34 × ¼, and 36 × 34 × ¼. These three lights are

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placed in two towers, and are in charge of T. Brodeur. The smaller tower is placed upon a scaffolding which is not considered secure from the action of the ice, and a block or pier filled with stone is recommended as a more solid foundation for the lantern, which should be portable, so as to be removed at the close of the season. This is recommended by the keeper, Capt. Cotte and myself. The larger tower foundation has been slightly affected by the action of frost. I requested the keeper to lay a covering of manure and earth surrounding the space likely to be so affected.

ST. THERESE.—NORTH SIDE, ON THE ISLAND.

This light, in charge of Samuel Reeves, consists of one catoptric, No. 1 flat-wick lamp, and 15 inch reflector, size of glass, 36x34x¼. Consumes about 25 gallons of oil per season, and is in good order.

ISLE A LA BAGUE.—NORTH SIDE, ON THE ISLET.

Latitude N. 45° 44′ 14″; Longitude W. 73° 26′ 15″.

This is a fixed white catoptric light, and is removed on account of the ice at the end of the season of navigation. The lighting apparatus consists of two flat-wick No. 1 lamps, with fifteen inch reflectors. Size of glass 19½x29x⅛. Consumes about fifty gallons of oil per season. Lantern requires painting, which I requested the keeper to do and also to place it under shelter for the winter.

J. ETHIER, Keeper.

REPENTIGNY.—NORTH SIDE.

Latitude N. 45° 2′ 0″; Longitude W. 73° 26′ 8″.

This light, in charge of C. Rivet, consists of one catoptric No. 1 flat-wick lamp, with fifteen inch reflector. Size of glass 36 + 36 + ⅛, and consumes about twenty-five gallons of oil per season. To prevent action of frost around base of tower, which has been slightly affected by this cause, I requested the keeper to put a layer of manure and earth over it.

REPENTIGNY.—170 YARDS FROM THE OTHER TOWER.

This light is in charge of J. B. Lachapelle, and is similar in every respect to the other excepting being but fourteen feet high. Size of glass 36 + 36 × ⅛. It consumes about twenty-five gallons of oil per season.

ISLE AU PRUNES.—ON THE ISLAND.

Latitude N. 45° 46′ 50″; Longitude W. 73° 22′ 30″.

This light consists of two No. 1 flat-wick lamps with fifteen inch reflectors, catoptric size. Size of glass 32x20½x⅛, and consumes about fifty gallons of oil per season. In charge of J. B. Larose.

CONTREÇOEUR.—SOUTH SIDE.

Latitude N. 45° 49′ 52″; Longitude W. 73° 17′ 0″.

The light in charge of J. Gervais is two and a half miles above Contreçoeur Church, and consists of one No. 1 flat-wick lamp, fifteen inch reflectors, catoptric. Size of glass 25½x 34x⅛. Consumes about twenty-five gallons of oil per season, and was found to require some slight repairs to make the roof water-tight.

CONTREÇOEUR.—SOUTH SIDE.

This light, precisely similar to the other, is placed in a lower tower for the same purpose. Size of glass 25¼x34x⅛, and consumes about twenty-five gallons of oil per season. Some few repairs are necessary to the bottom of the lantern. It is in charge of F. Lacroix.

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LAVALTRIE.—SOUTH SIDE OF THE ISLAND.

Latitude N. 45° 52′ 55″; Longitude W. 73° 16′ 0″.

This light consists of two flat-wick mammoth lamps, and fifteen inch reflectors in each of the two towers, 320 yards apart, one being twenty-one and the other thirteen feet above high-water mark. Lighting apparatus catoptric. Size of glass 25 x 20½ x ⅛, and 23x28x⅛, and consumes about 120 gallons of oil per season. The smaller tower, which is removed at the end of the season of navigation, is not in good condition, and requires considerable repairs, and probably renewing very soon. The pier or block upon which it is placed, has been considerably damaged by the action of the ice from its exposed position. I requested the keeper to place about five toise of stone around it to make it more secure, this being recommended by Capt. Cotte and the keeper. Are in charge of D. Giguere.

SOREL HARBOUR.

Two red lights on the Richelieu Company's Wharf, to indicate the harbour, are maintained by the company at an annual allowance of $85.

ISLE DE GRACE.—ON THE ISLAND.

This light indicates the island, and consists of two flat-wick No. 1 lamps with fifteen inch reflectors—catoptric light. Size of glass 19 x 30, and consumes about fifty gallons of oil per season. It is a new light erected near the place where the steamer *Quebec* grounded some years ago. The keeper, Edward Paul, states that he has prevented the inhabitants and others from cutting down the trees, which on this island, as well as on the Isle a la Pierre, are so necessary for the purpose of serving as barriers to the ice which piles up to a considerable height in the neighborhood, and a few years ago caused such great destruction of life and property, carrying everything before it. He has petitioned the Department for some allowance for this service, which is considered very necessary. Living in the neighborhood of both islands, he has every facility of watching them, and I would beg to recommend that his petition be taken into favorable consideration

STONE ISLAND OR ISLE A LA PIERRE.—ON THE EAST POINT OF THE ISLAND.

Latitude N. 46° 5′ 54″; Longitude W. 72° 59′ 40″.

Fixed white catroptic light. Two No. 1 flat-wick lamps—fifteen inch reflectors Size of glass 28x36 and 30x28. Consumes about fifty gallons of oil per season. J. Lamoureux, keeper. I found the light in perfect order.

ISLE AU RAISINS.—ON THE ISLAND.

Latitude N. 46° 6′ 14″; Longitude W. 72° 57′ 50″.
46° 6′ 0″; 72° 58′ 0″.

Fixed white catoptric light. Two towers about ten acres apart. Two No. 1 flat-wick lamps—fifteen inch reflectors. Size of glass—upper lantern—36 x 36—36 x 21 x ⅛; lower lantern 20 x 31 x ⅛. Consumes about 100 gallons of oil per season. Found in good order, and in charge of O. Letendre.

LIGHT-SHIP No. 1.—LAKE ST. PETER, WEST END.

Latitude N. 46° 9′ 39″; Longitude W. 72° 56′ 50″.

Fixed white catoptric light. One mammoth circular wick lamp. Size of glass, 26½ x 26½ x ⅛. Consumes about 120 gallons of oil per season. In charge of O. Auger, and found in good order.

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LIGHT-SHIP No. 2.—LAKE ST. PETER, CENTRE.

Latitude N. 46° 11′ 39″; Longitude W. 72° 53′ 20″.

Fixed white catoptric light. One mammoth circular wick lamp. Size of glass 26½ x 26½ x ⅛. Consumes about 120 gallons of oil per season. In charge of E. Arcand, and found in good order.

LIGHT-SHIP No. 3.—LAKE ST. PETER, EAST END.

Latitude N. 46° 15′ 56″; Longitude W. 72° 42′ 18″.

Fixed white catoptric light. Three No. 1 flat-wick lamps attached to one fountain. Size of glass 26½ x 26½ x ⅛. Consumes about 120 gallons of oil per season. In charge of J. Dussureau, and found wanting some slight repairs. A small skylight is required. The keeper states that he cannot manage the circular mammoth lamps as used on the other two light-ships, and he is consequently using three of the old style instead of one. As they do not consume more oil, and combined give as good a light, I directed him to continue and keep the circular lamp as a spare.

POINT DU LAC.—NORTH SHORE.

Latitude N. 46° 16′ 50″; Longitude W. 72° 40′ 22″.

Fixed white catoptric light. One No. 1 flat-wick lamp, 15 inch reflector. Consumes about twenty-five gallons of oil per season. Is in charge of M. Paquin, and kept in good order.

PORT ST. FRANCIS.—SOUTH SHORE.

Latitude N. 46° 16′ 20″; Longitude W. 72° 37′ 15″.

Two fixed white catoptric lights. Upper tower, two No. 1 flat-wick lamps, fifteen inch reflectors. Size of glass 20 x 32 x ⅛. Lower tower, one No. 1 flat-wick lamp, fifteen inch reflector. Size of glass 27 x 31½ x ⅛. Consumes about seventy gallons of oil in both lanterns. They will require painting next spring, and some repairs to the upper tower. I requested the keeper to send me an estimate of the probable cost. Both are in charge of J Chaurette.

CAPE DE LA MAGDELEINE.—NORTH SHORE.

Latitude N. 46° 23′ 16″; Longitude W. 72° 28′ 38″.

Two fixed white catoptric lights, 235 yards apart. Upper tower, one No. 1 flat-wick lamp, fifteen inch reflector. Siz of glass 36 x 36 x ⅛. Lower tower, one No. 1 flat-wick lamp, fifteen inch reflector. Size of glass 28 x 35 x ⅛. Both consume about fifty gallons of oil per season. They will require painting next season. Are in charge of P. Montplaisir.

CAPE DE LA MAGDELEINE.—NORTH SHORE.

Latitude N. 46° 23′ 46″; Longitude W. 72° 27′ 18″.

Two fixed white catoptric lights, 200 yards apart. Upper tower, one No. 1 flat-wick lamp, fifteen inch reflector. Size of glass 30½ x 36½ x ⅛. Lower tower, one No. 1 flat-wick lamp, fifteen inch reflector. Size of glass 30½ x 36½ x ⅛. Both lights consume about fifty gallons of oil per season. In charge of P. Manuel, and in good order.

CHAMPLAIN.—NORTH SHORE.

Latitude N. 46° 24′ 34″; Longitude W. 72° 20′ 32″.

Fixed white catoptric lights. Two mammoth flat-wick lamps, seventeen inch

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reflectors. Size of glass 35 x 27 x $\frac{1}{8}$. Consumes about 100 gallons of oil per season. Reflectors require re-silvering, which can be done during the coming winter. The light is otherwise in good order, and is in charge of N. Hardy.

POINT AU CITRONILLE.—NORTH SHORE.

This is a temporary fixed white light, triangular lantern, mammoth flat-wick, placed on top of a frame to indicate the point, and is in charge of C. Brunelle. At the request of Captain Nelson, with the permission of the Department, I removed this light two acres back to high water mark on the point clear of the trees, and sent up a new frame work, consisting of three poles, about thirty feet high, upon which a triangular lamp is placed, being at least ten feet higher than formerly. The frame work is painted white, and owing to the action of the ice, will have to be removed to a distance of about one mile at the end of the season. A small building, which is easily removed, with the use of a stove, was secured for the shelter of the keeper, for which six dollars is to be paid for the season. The keeper's salary has not yet been fixed.

BATISCAN.—NORTH SHORE.

Latitude N. 46° 30′ 16″; Longitude W. 72° 14′ 52″.

Fixed white catoptric light; one No. 1 dual flat-wick lamp, fifteen inch reflector. Size of glass 36 x 36 x $\frac{1}{8}$. Consumes about fifty gallons of oil per season. Is in charge of L. Fugeres, and will require painting next spring.

BATISCAN.—NORTH SHORE, ABOUT 222 YARDS FROM THE OTHER LIGHT.

Latitude N. 46° 30′ 16″; Longitude W. 72° 14′ 52″.

Fixed white catoptric light; one No. 1 dual flat-wick lamp, fifteen inch reflector, size of glass 36$\frac{1}{2}$ x 36$\frac{1}{2}$ x $\frac{1}{8}$. Consumes about fifty gallons of oil per season. Is in charge of J. Marchand, and in good order.

ST. PIERRE DE BECQUETS.—SOUTH SHORE.

Latitude N. 46° 30′ 28″; Longitude W. 72° 12′ 30″.

Fixed white catoptric light; one No. 1 flatwick lamp, and one circular No. 1 lamp fifteen inch reflectors, size of glass 38 x 27$\frac{1}{2}$ x $\frac{1}{8}$. Consumes about seventy gallons of oil per season. Is in charge of S. Francoeur, and in good order.

CAPE CHARLES.—SOUTH SHORE.

Latitude N. 46° 33′ 39″; Longitude W. 72° 4′ 15″.

Two fixed white catoptric lights, eighty yards apart. Upper tower, one mammoth flat wick lamp, twenty inch reflector, size of glass 28 x 35 x $\frac{1}{8}$. Lower tower, two flat-wick No. 1 lamps, fifteen inch reflectors, size of glass 28 x 35 x $\frac{1}{8}$. Consumes about fifty gallons of oil per season. Both towers are in charge of F. Boisvert, and in good order.

GRONDINES.—NORTH SHORE.

Latitude N. 46° 35′ 49″; Longitude W. 72° 4′ 12″.

Two fixed white catoptric lights 1,350 yards apart. Upper tower in charge of E. Trottier; one mammoth flat-wick lamp, fifteen inch reflector, size of glass 18$\frac{1}{2}$ x 19 x $\frac{1}{8}$. Consumes about fifty gallons of oil per season. Lower tower, in charge of J. Trottier, one mammoth flat-wick lamp, fifteen inch reflector, size of glass 16 x 25 x $\frac{1}{8}$. Consumes about fifty gallons of oil per season. Both were found in good order.

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RIVIERE DUCHENE.—SOUTH SHORE ON LANGLOIS POINT.

Latitude N. 46° 35′ 5″; Longitude W. 71° 59′ 35″.

Fixed, white catoptric light; two No. 1 flat-wick lamps, fourteen inch reflectors, size of glass 34¼ x 29 x ⅛. Consumes about fifty gallons of oil per season. The foundation of the tower will require repairs next season. In charge of O. Langlois.

RICHELIEU ISLET.—SOUTH SHORE ON THE ISLET.

Latitude N. 46° 38′ 30″; Longitude W. 71° 54′ 51″.

Fixed white catoptric light; two No. 1 flat-wick lamps, fifteen inch reflectors, size of glass 36 x 36 x ⅛. Consumes about fifty gallons of oil per season. Is in good order, and in charge of H. Blais.

LOTBINIERE.—SOUTH SHORE.

Fixed white catoptric light; one mammoth flat-wick lamp, fourteen inch reflector, size of glass 36 x 36 x ⅛. Consumes about fifty gallons of oil per season. Finding no oil tank on hand, I supplied one, and also three spare burners. Is in good order, and in charge of O. Beaudet.

LOTBINIERE.—SOUTH SHORE.

Fixed white catoptric light; one mammoth flat-wick lamp, fourteen inch reflector, size of glass 36 x 36 x ⅛. Consumes about fifty gallons of oil per season. There was also no oil tank, or spare burners at this light, and I supplied a fifty gallon tank and three burners. Is in good order, and in charge of O. C. Delachevrotiere.

PLATEN POINT.—SOUTH SHORE.

Latitude N. 46° 39′ 13″; Longitude W. 71° 53′ 3″.

Two fixed white catoptric lights, 169 yards apart, upper tower, one No. 1 flat-wick lamp, fourteen inch reflector, size of glass 34 x 32 x ⅛. Lower tower, one No. 1 flat-wick lamp, fourteen inch reflector, size of glass 24 x 24 x ⅛. Both lights consume about fifty gallons of oil per season. Is is in good order, and in charge of P. Beaudet.

PORTNEUF.—NORTH SHORE.

Latitude N. 46° 41′ 48″; Longitude W. 71° 52′ 10″.

Two fixed white catoptric lights, about 180 yards apart, upper tower, one circular No. 1 lamp, seventeen inch reflector. Lower tower, two circular No. 1 lamps with seventeen inch reflectors. Consumes about 200 gallons of oil per season. Are in charge of F. Roderick, and in good order.

ST. CROIX.—SOUTH SHORE.

Latitude N. 46° 37′ 45″; Longitude W. 71° 44′ 10″.

Fixed white catoptric light; two No. 1 circular lamps, seventeen inch reflectors. Consumes about 120 gallons of oil per season. In charge of J. Thurber, and in good order

ST. ANTOINE.—SOUTH SHORE.

Latitude N. 46° 39′ 40″; Longitude W. 71° 36′ 10″.

Fixed white catoptric light; two No. 1 circular lamps, seventeen inch reflectors, Consumes about 120 gallons of oil per season. In charge of L. Lafleur, and is in good order.

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LIGHT HOUSES AND LIGHT SHIPS BELOW QUEBEC.

Point St. Laurent—Island of Orleans.

Latitude N. 46° 51′ 50″; Longitude W. 71° 0′ 40″.

Fixed white catoptric light; five mammoth flat-wick lamps, 18 inch reflectors, size of glass 26¼ × 16¼ × ¼. Consumes about 180 gallons of oil per season. In charge of G. Chabot, and in good order.

Bellechasse—South Shore.

Latitude N. 46° 56′ 0″; Longitude W. 70° 46′ 0″.

Fixed white catopric light; five mammoth flat-wick lamps, 22 inch reflectors, size of glass 16 x 14 x ¼. Consumes about 180 gallons of oil per season. Is in charge of E. Thivierge, and in good order.

Monté du Lac—North Shore.

Latitude N. 47° 7′ 40″; Longitude W. 70° 42′ 30″.

Fixed white catoptric light; two flat-wick No. 1 and one No. 1 circular lamps, 20 inch reflectors. Consumes about ninety gallons of oil per season. Is in charge of E. Simard, and in good condition.

Crane Island—On the Island.

Latitude N. 47° 3′ 0″; Longitude W. 70° 34′ 30″.

Fixed white catoptric light; five mammoth flat-wick lamps, 22 inch reflectors, size of glass 16 × 14 x ¼. Consumes about 200 gallons of oil per season. In charge of G. Painchaud, and in good order.

Stone Pillars—On the Island.

Latitude N. 47° 12′ 25″; Longitude W. 70° 21′ 26″.

Revolving white catoptric light every 1½ minute; fifteen No. 1 flat-wick lamps, 22 inch reflectors, size of glass 24 x 23 x ¼. Consumes about 350 gallons of oil per season. During the past winter some repairs were found necessary to the revolving gear, and made. In charge of T. Babin.

Upper Traverse Light Ship.—North West Edge, St. Roque's Shoals.

Latitude N. 47° 19′ 50″; Longitude W. 70° 16′ 0″.

Fixed white dioptric lights; one lantern eight feet above the other, and consumes about fifty gallons of oil per season. The bell is kept tolling during fog and snow-storms. This vessel during the past winter underwent considerable repairs, and is now in good order, and in charge of Captain M. Dechene.

Lower Traverse Light Ship.—N. E. part of St. Roque's Shoal.

Latitude N. 47° 22′ 10″; Longitude W. 70° 14′ 15″.

Fixed white dioptric lights; one lantern four feet above the other; formerly burned fish oil, but were arranged to use petroleum, which has greatly improved the light, and at a much less expense. The bell is kept tolling during fogs and snow-storms. This vessel, last winter, was repaired to enable her to perform another season's service, and will require a thorough overhauling during the coming winter. She is in charge of Captain J. Gourdeau.

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GRAND ISLE, KAMOURASKA.—N. E. END OF THE ISLAND.

Latitude N. 47° 38′ 20″; Longitude W. 69° 51′ 40″.

Fixed white catoptric light; four flat-wick mammoth and two circular No. 1 lamps, with twenty inch reflectors, size of glass 16 x 14 x ⅛. Consumes about 200 gallons of oil per season. A new boat and sails was provided for this light-house this season. Is in charge of F. Roy des Jardain.

LONG PILGRIMS.—ON THE ISLAND.

Latitude N. 47° 43′ 15″; Longitude W. 69° 42′ 20″.

Fixed white fourth order dioptric light; one mammoth flat-wick lamp, consumes about seventy gallons of oil per season; size of glass 43 x 28 x ½. Is in excellent order, and in charge of J. C. Marquis. The house and tower were repaired last season.

BRANDY POTS.—ON THE ISLAND.

Fixed white fourth-order dioptric light; one mammoth flat-wick lamp, size of glass 43 x 28½ x ½. Consumes about seventy gallons of oil per season. Considerable repairs were necessary and made to the building last season. In charge of J. B. Picard.

RED ISLAND.—ON THE ISLET.

Latitude N. 48° 4′ 20″; Longitude W. 69° 32′ 56″.

Fixed red catoptric light; twenty-four No. 1 flat-wick lamps, twenty one-inch reflectors, size of glass 30 x 27½ x ½. Consumes about 700 gallons of oil per season. The roof of the building requires repairing, which is being attended to. Is in charge of E. Fraser.

LARK ISLET.—ENTRANCE TO THE SAQUENAY.

Latitude N. 48° 5′ 30″; Longitude W. 69° 49′ 0″.

Fixed white catoptric light. I have not yet visited this light, but know that it is seen from eight to ten miles off. A bell is kept tolling during fogs and snow-storms. The closing in of the lower part of the tower has been approved by the Department, for the shelter of the keeper. A suitable boat is also required and been ordered, to enable him to carry wood and water. It is in charge of P. Boulliaune.

CHICOUTIMI.—RIVER SAQUENAY.

Six fixed white lights, lanterns, and ten buoys were furnished by the Department for the above neighbourhood, and are in charge of Messrs. Price Bros.

RED ISLAND LIGHT SHIP AND FOG WHISTLE.—RED ISLAND REEF.

Latitude N. 48° 6′ 30″; Longitude W. 69° 30′ 20″.

One catoptric lantern; two fixed white lights, thirty-four feet, and one dioptric light, twenty-two feet, from the deck. The vessel is moored in ten fathoms of water, north-east from the Island. A steam fog whistle is sounded during fogs and snow-storms, ten seconds in every minute, leaving an interval of fifty seconds between each blast. Should the vessel by any cause be off her station during the day, a ball will be hoisted at the foremost head; and at night a globe lantern, that she may appear like an ordinary vessel at anchor, and the fog whistle sounded irregularly like an ordinary steamer. The improvements made in the condenser last winter by Mr. Barbour, have tended to diminish the consumption of fuel. This vessel continues to render excellent service to navigation, and as at Manicouagan, the captain in charge frequently runs off vessels even

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in clear weather discovered approaching too near the reef. Is in charge of Captain L. Levesque, with an efficient engineer and crew.

GREEN ISLAND.—NORTH PART OF ISLAND, FOG GUN STATION.

Latitude N. 48° 3′ 17″; Longitude W. 69° 25′ 10″.

Fixed white catoptric light; thirteen No. 1 flat-wick lamps, twenty-one inch reflectors, size of glass 24 x 23 x ¼. Consumes about 375 gallons of oil per season. The fog gun stationed here is fired every half-hour during fogs and snow-storms. Consumes on an average 3,000 pounds of powder per season, with a proportionate quantity of cartridges and friction tubes. Is in charge of G. Lindsay.

PORTNEUF LIGHTHOUSE (BELOW QUEBEC).—NORTH SHORE, RIVER ST. LAWRENCE.

Latitude N. 48° 37′ 0″; Longitude W. 69° 6′ 0″.

Fixed white catoptric light, thirty-three feet above high-water mark; two mammoth flat-wicks, with twenty inch reflectors; also three circular No. 1 lamps, twenty-one inch reflectors, size of lantern glass 36 x 27¾ x ⅜. First exhibited on the 22nd October, 1873, and was seen fifteen miles off. Will consume about 300 gallons of oil per season. I personally visited this Light, and found the contractor had performed the work in a satisfactory manner. Lightning rod, boat stove, &c., will be wanted next season. This new light will render great service to navigation in warning off vessels approaching too near the dangerous shoals, over a mile out from the Lighthouse, which is built near the end of the Point, about 6,000 feet from the clump of pines. A vessel struck the shoal the day before the Light was first exhibited. Zephirin Warren is the keeper.

BICQUET LIGHTHOUSE.—NEAR CENTRE OF THE ISLAND.—FOG GUN STATION.

Latitude N. 48° 25′ 18″; Longitude W. 68° 53′ 20″.

A revolving white catoptric light every two minutes; twenty-one No. 1 flat-wick lamps, twenty-one inch reflectors, size of glass 29½ x 27 x ¼. Consumes about 500 gallons of oil per season. The fog gun stationed here is fired every hour during fogs and snow-storms. Consumes on an average 1,800 pounds of powder per season, with a proportionate number of cartridges and friction tubes. The keeper is J. F. Bechard.

FATHER POINT LIGHTHOUSE.—ON THE POINT.—GUN STATION.

Latitude N. 48° 31′ 25″; Longitude W. 68° 27′ 40″.

Fixed white catoptric light; five mommoth flat-wick lamps, twenty-one-inch reflectors, size of glass, 27 x 36 x ¼. Consumes about 220 gallons of oil per season. The signal-gun stationed here is fired to enable steamers to distinguish the Point, and consumes about 500 pounds of powder per season, with a proportionate number of cartridges and friction tubes. The keeper is D. Lawson, who is also telegraph operator.

MANICOUAGAN SHOAL LIGHT SHIP AND FOG WHISTLE.

Latitude N. 49° 2′ 0″; Longitude W. 68° 15′ 0″.

Moored in twenty-five fathoms of water. Two dioptric white lights fixed to the masts, one twenty-seven the other twenty-four feet high from the deck. The fog whistle is sounded with a blast of eight seconds duration, then an interval of eight seconds, followed by a blast of eight seconds, then an interval of two minutes and twenty seconds. Should the vessel by any cause be off her station in the day a ball will be raised at the foremast head, and if at night a globe lantern, that she may appear like an ordinary vessel at anchor—the fog alarm sounded irregularly during fogs at such time. Since this vessel has been placed on her station in August, 1872, she has proved of signa

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service to navigation during fogs and snow-storms, and the captain has frequently warned off vessels which were approaching too near the shoals, even in clear weather, thereby saving life and property. The fog whistle has been heard a distance of sixteen miles off in clear weather. Captain T. Connell, with an efficient engineer and crew, is in charge, and performs the duties in a creditable manner.

MATANE LIGHTHOUSE—SOUTH SHORE, COUNTY RIMOUSKI.

Latitude N. 48° 52′ 0″; Longitude W. 67° 33′ 0″.

Fixed red catoptric light; two circular wick and two mammoth flat-wick lamps, with 20 and 18 inch reflectors; size of glass 36 x 27¾ x ⅜. Consumes about 250 gallons of oil per season. This is a new light, erected the present season, and will be in operation on the 1st October next, in charge of Francis Dionne. To procure a good view of the light in any direction, was obliged to place the tower twenty feet from edge of embankment, and it may be necessary in course of time to protect it from action of high tides by a log facing filled in with stone.

POINT DES MONTS LIGHTHOUSE—NORTH SHORE.

Fog Gun Station.—Provision Depôt for Distressed Seamen.

Latitude N. 49° 19′ 35″; Longitude W. 67° 21′ 55″.

Fixed white catoptric light; seventeen flat-wick No. 1 lamps, twenty-one inch reflectors; size of glass 23¾ x 23¼ x ⅛, and consumes about 400 gallons of oil per season. The gun stationed here is fired every hour during fogs and snow-storms, and consumes about 1,000 pounds of powder per season, with a proportionate number of cartridges and friction tubes. I regret to say that I found the keeper, Captain Pouliot, laboring under mental derangement, and sufficiently ill to necessitate his removal. I placed two trustworthy men in charge, and brought the keeper up to Quebec. In the month of November, F. Fafford, appointed by you, took charge. The provision depôt also under his care contains:—

7 barrels of Pork,
15 do. Flour,
3 do. Peas,
Some Tea and Sugar,
A complete Medicine Chest,
12 Pea Jackets,
12 pairs Pants,
12 do. Drawers,
12 do. Socks,
12 do. Flannel Shirts,
12 Caps,
12 Comforters,
12 pairs Mitts,
12 do. Boots,
6 do. Snow Shoes,
6 do. Mocassins.

These supplies are all fresh, having been put in the depôt this season, and all old stock removed. A horse is furnished the keeper for the purpose of drawing fuel, water and supplies.

CAPE CHATTE LIGHTHOUSE.—SOUTH SHORE.

Latitude N. 49° 5′ 50″; Longitude W. 66° 45′ 50″.

Flash catoptric white light, with an interval of thirty seconds between each flash;

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four circular No. 1 lamps, twenty inch reflectors; size of glass 60 x 30 x ½. Consumes about 250 gallons of oil per season. The landing was put in order for the reception of supplies. Owing to the steep ascent of the roadway to the lighthouse considerable difficulty is experienced in bringing up stores. The Department purchased the surrounding land with right of way. The keeper is Joseph Roy.

CAPE MAGDALEN LIGHTHOUSE.—MAGDALEN RIVER—SOUTH SHORE.

Latitude N. 49° 15′ 40″; Longitude W. 65° 19′ 30″.

Red and white catoptric revolving light every four minutes, with an interval of two minutes between each flash; six circular No. 1 lamps, twenty inch reflectors; size of glass 60 x 30 x ½. Consumes about 300 gallons of oil per season. As this light is a considerable distance up from the landing, the keeper suggests that a small building be erected for the purpose of sheltering stores until he can take them up to the tower. In charge of P. Savage.

EGG ISLAND LIGHTHOUSE.—ON THE ISLAND.

Latitude N. 49° 38′ 0″; Longitude W. 67° 10′ 0″.

Revolving white catoptric light, revolves every 1½ minutes; four No. 1 circular lamps, twenty inch reflectors; size of glass 60 x 30 x ½. Consumes about 300 gallons of oil per season. The inside of the keeper's dwelling was repaired to make it more comfortable, being found very cold from its exposed position; the cellar has been properly drained, and a platform laid down over which to carry the stores from the landing; a suitable boat was furnished for the purpose of carrying water and fuel, and render assistance in case of wrecks in the neighbourhood. The tower was stayed with wire rigging, and some alterations made to the chimney, necessitated on account of its smoking, caused by the action of northerly winds. During over one month last fall and about as long a time this spring, owing to the revolving gear getting out of order, the keeper, with his wife and children, turned the light by hand from sunset to sunrise at a season when the weather was very cold, his young daughters taking their regular time at revolving. I had much pleasure in calling the attention of the Honorable the Minister to such praiseworthy conduct. In charge of P. Cote.

CAPE ROSIER LIGHTHOUSE.—FOG GUN STATION.

Latitude N. 48° 51′ 57″; Longitude W. 64° 12′ 0″.

Fixed white first order dioptric light; five mammoth flat-wick lamps. Consumes about 220 gallons of oil per season. The fog gun consumes on an average about 1,500 pounds of powder per season, with a proportionate number of cartridge bags and friction tubes. Some repairs to the door of the gun house were found necessary and made. Is in charge of A. Trudeau, who is also telegraph operator, and furnishes meteorological reports to the magnetic observatory, Toronto. The keeper is furnished with a horse to draw his fuel, water and supplies, which is maintained at his own expense.

GASPÉ POINT LIGHTHOUSE.—STEAM FOG WHISTLE.

Latitude N. 48° 45′ 30″; Longitude W. 64° 9′ 15″.

Fixed red catoptric light; two No. 1 circular and two No. 1 flat-wick lamps, twenty inch reflectors; size of glass 28in. x 60in. x ⅜in. Will consume about 250 gallons of oil per season, and will be exhibited for the first time on the 7th October, 1873.

Fog whistle will not be in operation till next spring. C. Enouf, keeper.

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GASPE LIGHT SHIP.—SANDY BEACH.

Latitude N. 48° 50′ 45″; Longitude W. 64° 34′ 30″.

This vessel moored off the extreme of the spit has two dioptric lanterns; one red, the other white; the red light is twenty-nine feet from the deck, and the white light thirty-five feet high from the deck; the vessel is painted red, with the words "Light Vessel" on her sides. In charge of Captain N. Ascah.

GASPE BASIN LIGHTHOUSE, O'HARA'S POINT.—ON THE WHARF,

Is in charge of the Harbour Master, is a red catoptric light, and indicates the harbour.

WEST POINT ISLAND OF ANTICOSTI LIGHTHOUSE, FOG GUN STATION, AND PROVISION DEPOT.

Latitude N. 49° 52′ 30″; Longitude W. 64° 31′ 40″.

Fixed white dioptric light, second order. Five mammoth flat-wick lamps consume about 220 gallons of oil per season. The fog gun is fired every hour during fogs and snow storms, and consumes about 1,200 lbs. of powder per season, with a proportionate quantity of cartridges and friction tubes. A quantity of provisions and other supplies are in the depot, similar to Point des Monts, and all renewed the past season. In good order, and in charge of L. Malouin. A horse is furnished the keeper to enable him to draw water, fuel, and supplies.

ELLIS BAY PROVISION DEPÔT.

In charge of Captain R. Setter, contains the same quantity of provisions, clothing medicine, &c., as Point de Monts, and were renewed the past season.

SOUTH-WEST POINT, ISLAND OF ANTICOSTI LIGHTHOUSE.—PROVISION DEPÔT.

Latitude N. 49° 23′ 45″; Longitude W. 63° 35′ 46″.

Revolving white catoptric light; an interval of three minutes between each flash. Twenty-one No. 1. flat-wick lamps, twenty-one inch reflectors. Consumes about 900 gallons of oil per season. The provision depôt contains the same supplies as Point des Monts. The whole is in excellent order, and in charge of E. Pope, who has rendered valuable assistance in saving life and property in the cases of wrecks which have occurred in the neighbourhood, and, in some instances, at the risk of his own life; he has also supplied distressed seamen from his own stores, and both himself and family have at great inconvenience cheerfully attended to the wants of the sick, and dressed the wounds of those injured in their efforts to save their lives. This praiseworthy conduct has been brought before the notice of the department, and I understand that besides reimbursing him for the supplies so generously furnished, it is also further intended to reward him. The keeper is furnished with a horse for the purpose of drawing fuel, water, and other supplies.

SOUTH POINT, ISLAND OF ANTICOSTI LIGHTHOUSE, STEAM FOG WHISTLE, STATION, AND PROVISION DEPÔT.

Latitude N. 49° 4′ 30″; Longitude W. 62° 17′ 30″.

Flash catoptric light every twenty seconds; twelve circular No. 1 lamps, twenty inch reflectors, size of glass 60 x 30 x ½. Consumes about 950 gallons of oil per season. The fog whistle is blown during fogs and snow storms ten seconds in every minute. Owing to the proximity of wood, the keeper is enabled to supply a great portion of the fuel necessary, the department having furnished him a horse, which is maintained at his own

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expense for that purpose, and a reasonable allowance per cord is made for the wood. The supplies in the provision depôt are similar to those at Point des Monts, and renewed this season. The whole being in charge of D. Tetu, with an efficient engineer and assistant.

HEATH POINT, EAST-END, ISLAND OF ANTICOSTI LIGHTHOUSE.—PROVISION DEPÔT.

Latitude N. 49° 6′ 30″; Longitude W. 61° 42′ 30″.

Fixed white catoptric light; seventeen No. 1 flat-wick lamps, twenty-one inch reflectors. Consumes about 400 gallons of oil per season. The provision depôt is supplied similar to Point des Monts, and renewed the past season. This depôt has afforded relief to distressed seamen during the present season. The whole is in good order, and in charge of T. Gagné, who is furnished with a horse to draw his fuel, water, and supplies.

PASPEBIAC LIGHTHOUSE.—BAY DE CHALEUR, ON THE SPIT.

Latitude N. 48° 0′ 54″; Longitude W. 65° 14′ 20″.

Fixed white catoptric light; two circular No. 1 and one flat-wick No. 1 lamp, fifteen inch reflector. Consumes about 120 gallons of oil per season. Is in good order and in charge of L. Strange. The keeper suggests that a breakwater be erected here as a protection against the action of the sea during high tides.

CARLTON POINT LIGHTHOUSE.—BAY DE CHALEUR.

Latitude N. 48° 5′ 15″; Longitude W. 66° 7′ 0″.

Fixed red catoptric light; five flat mammoth lamps, eighteen inch reflectors Consumes about 180 gallons of oil per season. Is in good order, and in charge of E Landry.

BIRD ROCKS LIGHTHOUSE.—MAGDALEN ISLANDS.—FOG GUN STATION.

Latitude N. 47° 50′ 40″.; Longitude W. 61° 8′ 20″.

Fixed white second order dioptric light; one circular mammoth lamp. Consumes about 130 gallons of oil per season. The fog gun lately put on this station, will be fired every hour during fogs and snow-storms, from the 15th August, 1873. This light and fog gun are placed upon a barren rock, one of the Magdalen group, and only about seven superficial acres in size, which I have now the satisfaction of stating has been made more easy of approach by the completion of the landing at the north west end; the over hanging rock 122 feet high above water mark has been blasted away, and a strong crane erected to lower a large box to hoist up supplies. The landing at the south-east end, at which a crane and box are also placed, was by means of blasting also much improved, now affording facilities for getting up supplies at either one end or the other; when only the south east end could be used for landing, the steamer was sometimes detained several days waiting a change of wind, or for the sea to become calm before a boat could approach the point. A powder magazine has been erected and supplied with powder, cartridges and friction tubes. A calculation of the consumption cannot be made before next season. Owing to the serious illness of G. Preston, the keeper, two reliable men were placed in charge with two workmen, whose time was also partly employed in establishing the fog station, and completing the roadway from the new landing to the lighthouse, until P. Whalen took charge in the month of September, 1873. Meteorological observations are also furnished by the keeper to the Magnetic Observatory, Toronto. All the fuel required for the use of this station has to be supplied from Quebec.

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Amherst Island Lighthouse.—Magdalen Island.

Latitude N. 47° 13′ 0″; Longitude W. 61° 58′ 0″.

Revolving catoptric red and white light, alternate every thirty seconds; four circular No 1 lamps, twenty inch reflectors, size of glass 60 x 30 x ¼. Consumes about 500 gallons of oil per season. It is in good order, and in charge of W. Cormier.

Amherst Harbor.

The work of removing the obstruction at the entrance of Amherst Harbor has been completed under the supervision of Mr. Rosa, of the Department of Public Works. About 1,000 tons of rock have been removed, and the channel deepened to nine feet at low water, the rise and fall of tide being three feet ordinary tide.

Spar buoys are now placed on each side of the channel leading into this harbor, and moored in eight feet of water at low tide. Those on the starboard side are painted *red*, and those on the port side *white*.

To enter the harbor, vessels should pass midway betwixt the buoys. The entrance has been greatly improved by these marks, and the channel has been cut nearly straight through.

House Harbor.

At this harbor there are spar buoys placed in the fairway and mid-channel, leading into it, and moored in eight feet water at high tide. This harbor cannot be entered without a pilot.

The Dominion Steam Dredge *Canada* has been working in the channel leading into this harbor, during the past summer, but had to abandon it owing to her being too large, and drawing too much water to swing at her moorings with safety. A dredge of smaller tonnage with scows attached, is the only thing that can be successfully used there.

A large buoy painted red has been placed on the north-east end of the Sandy Hook Shoal, Pleasant Bay, and moored in five fathoms at low water. Vessels standing into Pleasant Bay, should pass to the north-east of this buoy, as the current sets very strong over the shoals.

Another buoy is required for the south-east end of this shoal, on which are dangerous knolls, with very little water over them, and in the direct course of vessels passing through the Sandy Hook Channel into Pleasant Bay.

The buoys at House Harbor have been furnished by the Municipality, and those at Amherst by Mr. Rosa, of the Public Works Department.

Etang du Nord Lighthouse and Steam Fog Whistle.

Latitude N. 47° 33′ 0″; Longitude W. 61° 58′ 0″.

Revolving white catoptric light; six No. 1 circular wick lamps, twenty inch reflectors size of lantern glass 20in. x 60in x ⅜, will be exhibited for the first time on the 20th April, 1874, and will consume about 600 gallons of oil.

The steam fog whistle will not be in operation before the season of 1874.

Cape Ray Lighthouse and Steam Fog-Whistle.

Latitude N. 47° 37′ 0″; Longitude W. 59° 18′ 0″.

Revolving and flash catopric light, revolves every two and a quarter minutes, flash every ten seconds. Twelve No. 1 circular lamps. Size of glass 60 x 30 x ½. Consumes about 700 gallons of oil per season. Material was taken down to make the roof, which was found leaky, water tight. The fog-whistle has not yet been put in operation. The whole is in charge of R. Rennie, with an efficient engineer and assistant.

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Point Rich Lighthouse, Newfoundland, Straits of Belle Isle.

Latitude N. 50° 41′ 50″; Longitude W. 57° 27′ 40″.

Catoptric white flash light every fifteen seconds. Twelve circular No. 1 lamps, with twenty inch reflectors. Size of glass 60 x 30 x ½, Consumes about 700 gallons of oil per season. Some changes suggested to be made in this light are to make the flashes more distinct, fifteen seconds between each being considered too quick, tending to make it appear at a distance nearly resembling a fixed light, such a change being now under the consideration of the Department. Reports having reached here that the revolving apparatus was not in working order, Mr. E. Fecteau was sent down, and put the same in good condition, and it has since continued to work well. In charge of E. Roy.

Forteau Lighthouse, Amour Point, Labrador.—Fog Gun Station.

Latitude N. 51° 27′ 35″; Longitude W. 56° 50′ 55″

Fixed white dioptric, second order light; five mammoth flat-wick lamps. Consumes about 200 gallons of oil per season. The fog gun is fired every hour during fogs and snow-storms, and consumes about 1,500 pounds of powder per season, with a proportionate quantity of cartridges and friction tubes. Is in good order and in charge of P. Godier, who also furnishes Meteorological reports to the Magnetic Observatory at Toronto. Mr. Davis, proprietor of the landing at this point, very kindly allows the supplies to be disembarked on his wharf, and stores them in the building until they can be taken away by the keeper. The keeper is furnished with a horse to draw water, fuel and other supplies.

Cape Norman Lighthouse, Straits of Belle Isle.

Latitude N. 51° 38′ 0″; Longitude W. 55° 53′ 40″.

White revolving catopric flash light every two minutes; six No. 1 circular lamps, twenty inch reflectors; size of glass 60 x 30 x ½. Consumes about 500 gallons of oil per season. The revolving apparatus of this light got out of order, and was repaired by Mr. Barbour, the ventilation improved, and other matters attended to, and is now in good working condition. In charge of H. Locke. The light is reported to have been seen by captains of the Allan Line of Steamers twenty-two miles off.

Belle Island Lighthouse, Straits of Belle Isle.—Fog Gun and Provision Station.

Latitude N. 51° 53′ 0″; Longitude W. 55° 22′ 15.″

Fixed first order dioptric white light; five flat-wick mammoth lamps. Consumes about 200 gallons of oil per season. The fog gun is fired every hour during fogs and snow-storms, and consumes about 2,000 pounds of powder per season, with a proportionate number of cartridges and friction tubes. The provision depôt supplies are similar to those at Point des Monts, and were renewed this season. A new brass nine-pounder gun, to replace the old one, was sent down by the steamer *Napoleon III.*, on her first trip this season. The keeper, M. Colton, furnishes valuable reports of the state of the weather and action of the ice, and the immense number of icebergs observed in the neighbourhood. All the fuel for the use of this station has to be supplied from Quebec. The keeper is furnished with a horse to draw his fuel, water and supplies.

I attach a report, sent me by Mr. Colton, of the ice in the Straits of Belle Isle during the winter and spring of 1873.

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REPORT OF ICE IN THE STRAITS OF BELLE ISLE, FOR THE WINTER AND SPRING OF 1873.

January 1. A small quantity of ice found during the night, the first seen in the Straits this winter.

January 9. Very little ice in the Straits.

„ 10. Blowing a gale. West wind, and driving slob ice out of the Straits, about four-and-a-half knots per hour.

January 11. A very small quantity of ice to the East, none to West.

„ 15. Thermometer 15 degrees below zero.

„ 16. A good deal of slob ice in the Straits, but very thin, and not strong enough to impede navigation.

January 20. More ice now in the Straits than usual, and it would be difficult for vessels to pass.

January 25. No clear water to East; a good deal of open water to West.

„ 27. Thermometer 6 degrees below zero.

„ 28. A great quantity of ice in the Straits, and very little open water to be seen.

January 31. Straits completely blocked with ice. Thermometer 12 below degrees zero.

February 2. A great quantity of heavy ice in the Straits. Thermometer 21 degrees below zero, being the coldest day this winter.

February 9. Not so much ice in the Straits. Vessels could pass along the South shore.

February 15. Clear water along the South side, as far as can be seen.

„ 17. A vast deal more ice driving in from the N. E.

„ 25. A large quantity of ice in the Straits, also twenty-nine icebergs driven in by the late N. E. winds. Very heavy swell under the ice, and which has made it all slob.

February 28. No ice in the Straits to impede navigation, all driven up the Straits.

March 3. A small quantity of ice to West, none to East; clear water along the N. and S. shore.

March 6. Strong breeze from West, ice drifting out fast; two steamers to S. E., engaged in seal hunting.

March 7. Fifteen steamers and ten sailing vessels to the S.E., sealing.

„ 9. Eighteen steamers and twenty-one sailing vessels in the Straits. S. S. *Vanguard* and S. S. *Panther* made fast to the island. Brigs *Glengarry*, *Gulnare*, and *Elizabeth Jane*, lying too off here, waiting for ice.

March 10. Steamers and vessels at all points, engaged seal hunting.

„ 12. S. S. *Merlin* made fast to the island, S. S. *City of Halifax*, and *Commodore* to S. E.

March 18. Some ice drove up from East, but is slack. One brig to the West.

„ 19. The brig reported yesterday got jammed in the ice off Cape Onion, and remained there until the 27th of April.

March 23. Straits blocked with ice.

„ 28. Very heavy ice, and great number of icebergs.

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April 1. Clear water along the North shore; 121 icebergs.

„ 7, 8, and 9. Strong breeze from N. N. W.; very little ice to West; a great quantity to E. S. E.

April 16. Eastern edge of the ice eight miles to East, and from that as far as can be seen to the West is blocked with ice; 244 icebergs.

April 25. No ice to East of here; a good deal to the West.

May 1. Straits completely blocked with ice.

„ 15. Straits still completely blocked with ice; wind cannot move it, owing to the large number of icebergs jamming it—420.

May 20. One steamer in the ice to E. S. E.

„ 28. Not so much ice. Vessels can pass.

„ 30. No ice to West; a good deal scattered to East. One brig outside the ice, supposed to be a French fishing craft.

June 3. Strong gale, N. N. E. wind. All the ice driven to S. S. E.

„ 5. A small quantity of ice along the South shore, but not to impede navigation.

„ 6. A bark and four brigs bound West, supposed to be French vessels employed in the Fisheries.

June 15. Two hundred and twenty icebergs in the Straits; two brigs, four brigantines, and one schooner bound North.

June 25. A man-of-war going from South to West.

„ 27. One of the Allan line of steamers, bound inward, first seen this Spring.

July 1. One ship, inward bound.

„ 3. A brigantine rigged steamer, inward bound; two steamers from the South going West; one straight-stern Allan's steamer, inwards; one barque and one steamer outward bound.

M. Colton,
Light Keeper.

BUOYS.

There are in this district sixty-five buoys, situated between Red Island and Cape Sante, in the River St. Lawrence, Chicoutimi, Saquenay River, Amherst Harbour, Magdalen Islands, and Gaspé Basin. In the River St. Lawrence they are frequently injured or displaced by passing vessels, and require to be carefully looked after, necessitating several trips of one of the Dominion steamers for that purpose, upon information of their derangement or injury being lodged at this Branch. In the River St. Lawrence, all black buoys are on the South side of the channel, excepting those at Beaugeau's Patch and White Island, which can be passed on either side; the one at Vache's Patch, near the Saquenay, must be passed on the South side only. The red buoys are all placed on the North side of the channel; white and chequered buoys indicate rocks or ends of shoals, and can be passed on either side, except the white and chequered buoys off the Saquenay, which are to be left to the North. Green buoys indicate sunken wrecks—the green buoy, near St. Jean, Port Joli, where the barque Chryseis was sunk, has been removed, as no vestige of that vessel remains. A black buoy has been placed on the patch lately discovered three quarters of a mile off the Island, and anchored in three fathoms at low water. The Crane Island lighthouse bearing N. by E. ½ E.

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BEACON.

Under the supervision of this agency, there are fifty-five beacons. Those on the River St. Lawrence act as bearings to station buoys, and leading marks to vessels up and down the channel. Those on the Island of Anticosti, are to enable vessels to distinguish the different points, owing to the general sameness of the character of the shores of the Island; between Cape Rosier and Cape Chatte for the same purpose. The two on the Labrador shore also distinguish the points of the coast, and mark the entrance to Bonne Espérance, and Coachoo Bays, both excellent harbors of refuge. The total number of fifty-five are distributed thus:—

1 at St. Vallier.
11 at Crane Island.
2 at Goose Island.
1 at Wood Pillar.
1 at St. John's Point.
4 at St. Roch's.
2 at Grand Island, Kamouraska.
2 at Hare Island.
1 at Cacouna.
3 at Green Island.
2 at Red Island.
3 at Saguenay.
3 at Bic Island.
2 at St. Fabien
4 on South side, Anticosti.
3 on North side, Anticosti.
2 on Labrador Coast.
5 between Cape Chatte and Cape Rosier.
2 at St. Francois, Island of Orleans.
1 at Cape Rouge, Monte du Lac.

Two new beacons were erected at Crane Island, to facilitate laying down a buoy on New Patch, and act as bearings or leading points.

QUEBEC RIVER POLICE AND SHIPPING OFFICE.

The account and disbursements for these services are also under the supervision of this agency. Reports of the operations are made by R. H. Russell Esq., Chief of the River Police and Shipping Master.

Distressed British Seamen are also cared for by the Shipping Master.

The Board of Steamboat Inspection and the Board of Examiners of Masters and Mates hold their sittings in the rooms of the office of this agency.

DOMINION STEAMERS.

These vessels are every year becoming more useful. The building of so many new lighthouses, with those already erected in the River and Gulf of the St. Lawrence, Straits of Belle Isle, and the coasts of Newfoundland, and Labrador, upon points of the most dangerous character, where no sailing vessel should venture,—in fact the lighthouses being put there to warn them away, none but powerful steamers, commanded by prudent and experienced masters, and manned by good crews, should undertake the duties. The supplies at Anticosti and most other points are landed in ship's boats manned by six men, and rowed from one to three miles from where the steamer is obliged to lay to, requiring from six to ten trips, frequently through very rough seas; twelve to fourteen strong men, with two good boats are needed for the purpose. It has sometimes happened that a sudden storm has sprung up, with a strong wind blowing on the land, and so rapidly

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increasing in strength as to prevent the boats from returning to the steamer, and she has been compelled to run far out to sea to get away from the treacherous neighbourhood, some days elapsing before she could take off the men. Before a sailing vessel could get her men on board, and sails and anchors up, she would be driven among the breakers. Besides being well employed on the above important duties, the steamers are also frequently engaged in rendering assistance to vessels in distress in the Gulf, and are depended upon to a great extent in such emergencies for the saving of life and property. A fair charge is made for the time occupied on such service, and the amounts so accruing are deposited to the credit of the Receiver General as revenue, enough being collected to go a considerable way towards paying for fuel, &c. annually consumed.

The steamers under the supervision of this branch are the steamship *Napoleon III.*, a powerful iron screw steamer built in 1856, by Messrs. R. Napier & Sons, Glasgow, and of 300 horse power, but which can be worked up to 700. She is of 494 tons gross tonnage, and can carry about 2,000 barrels, with a magazine capable of containing 10,000 pounds of powder. She has been commanded for the past seventeen years by Captain Eugene Gourdeau, who is also a branch pilot for the River St. Lawrence below Quebec. Her chief engineer, Mr. William Barbour, formerly of the establishment of Messrs. R. Napier & Sons, Glasgow, came out with her from Scotland, and has been in the employ ever since. The captain's mate, Mr. Joseph LeBlanc, who has had thirty-one years experience at sea, in vessels sailing to foreign countries; and the second mate, Mr. Jerome Lavard, who has been seventeen years on the steamer, are fully qualified for the duties they have to perform. The second engineer, Mr. Thomas Drysdale has been several years in the service, and possesses a first-class certificate, and is a good mechanic. The rest of the crew is composed of the usual seamen, obtained at this port when wanted. The side paddle steamship *Druid*, built of iron in 1856, by Messrs. Todd & McGregor, Glasgow, and of 170 horse power, can carry about 1,000 barrels, and has a powder magazine capable of holding 6,000 pounds. She is commanded by Captain Anselm Marmen, who has been fifteen years in the employ, and is also a branch pilot for the lower St. Lawrence. The first engineer, Mr. Stephen Carroll has been seventeen years in the employ, and is assisted by Mr. Joseph Rolph, a first-class engineer and good mechanic. The mate, Mr. Jean Landry, is an excellent coaster of twenty-six years' experience, fifteen of which have been spent in the employ. The balance of the crew is made up as in the case of the steamship *Napoleon* from time to time as wanted, from the usual seamen obtained at this port.

MOVEMENTS OF STEAMER "NAPOLEON III.," FROM 1ST JULY, 1872, TO 30TH JUNE, 1873.

6th July, 1872.—I despatched this steamer with powder and other supplies for light houses, steam fog whistles, provision depôts, provisions and fuel for the keepers in the Straits of Belle Isle, Newfoundland, Labrador, Anticosti, Magdalen Islands, Gaspé and Bay de Chaleur. She returned on the 17th August.

28th August.—Left at 11·30 a.m. with William Smith, Esq., Deputy-Minister of Marine and Fisheries; Sir Frederick Arrow, Deputy-master of the Trinity House London, England; Captain Webb, one of the Elder Brethren, and Mr. Edwards, private secretary to Sir Frederick, on an official inspection of the lighthouse and fog alarm system of Canada, the latter named gentlemen having come to this country for that purpose. Returned on the 31st August.

28th October.—Left at 6 a.m. to the assistance of a wreck, reported at the south point of Anticosti, where the *Lebanon* and were found total wrecks. Brought up the Captain and some of the crew.

14th November.—Left at 6 a.m. for Sandy Bay, near Metis, to assist the barque *Jessie* reported ashore. Returned on the 18th, at 4-30 p.m. with the barque *Jessie* in tow.

24th November.—Left at 4 p.m. to bring up the Manicouagan and Red Island Lightships. Returned on the 25th, at 9 p.m.

27th November.—Left at 4-30 a.m. to bring up the remaining buoys, and anchored

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at the entrance of the Traverse till the last of the Ocean vessels passed out. Returned on the 1st December.

2nd December.—Went into winter quarters at Blais' Booms.

During the winter all necessary repairs and outfits were made, including new tubes to the boilers.

29th April, 1873.—Arrived at the wharf from winter quarters.

1st May.—At 4 p.m. left for the traverse and anchored on the station of the Light-ship, to guide vessels through the traverse until the lake ice passed out. Returned on the 6th, at 1 p.m.

22nd May.—Left at 5 p.m. with supplies for the lighthouses as far as Father Point. Returned on the 27th, at 3 p.m.

29th May.—Left at 5 p.m. to tow the steamship *Vicksburg* as far as Cape Ray, Newfoundland, which service notwithstanding the great size of the *Vicksburg*, was performed in a short period and in a very satisfactory manner. Returned on the 7th June.

17th June.—Left at 9 a.m. with lighthouse and fog alarm supplies for the Gulf, Bay de Chaleur, Anticosti, and the north shore of New Brunswick. Returned in the month of July.

MOVEMENTS OF THE STEAMER "DRUID," FROM 1ST JULY, 1872, TO 30TH JUNE, 1873.

8th July, 1872.—I despatched this vessel at 4 a.m. on an official inspection, and with supplies to the lighthouses above Quebec. Returned on the 9th at 8 a.m.

11th July.—Left at 10 a.m. with Mr. J. U. Gregory, on an official inspection, and with supplies and materials for repairs to the lighthouses below Quebec, as far as Egg Island. Returned on the 21st, at 1 a.m.

27th July.—Left for Miramichi, New Brunswick, at 8 a.m. for the purpose of taking over fog alarms to St. Paul's Island and Cape Ray, and to tow up the Manicouagan Light-ship and fog whistle to her station. Returned on the 20th August.

24th August.—Left at 6 a.m. with the superintendent and apprentice pilots, to explore the north channel of the river St. Lawrence. Returned on the 4th September.

22nd September.—Left at 5 p.m. with Messrs. Brydges, Potter, and Walsh, on an official vist to the Intercolonial Railway, and landed them at Metis. Returned on the 24th.

26th September.—Left at 2 p.m., to place a buoy over the wrecked barque *Chryseis*, at St. Jean, Port Joli, and with lighthouse supplies, and material to finish repairs to Crane Island lighthouse and beacon. Returned on the 1st October, at 11 a.m.

5th October.—Left at 11 a.m. with C. R. Coker, Esq., and Captain Dick, to survey the wrecked steamship *Emily Edith*. Returned on the 9th. at 7 a.m.

28th October.—Left at 3 p.m., to put the upper traverse Light-ship in position, which, from the force of the storm of the previous day, had parted her moorings. Grappled for, and found the anchor and cable. Returned to Quebec on the 29th, at 6-30 p.m.

14th November.—Left at 5 a.m., to bring up the buoys in the Lower St. Lawrence, except those in the traverse. Returned on the 22nd, at 2 p.m., and went into winter quarters at Davie's Dock, Point Levis.

During the winter months the engine underwent considerable repairs. A new smoke pipe was put on, her framework strengthened with iron stringers, new deck forward and iron bulwarks, which proved of great benefit, enabling this vessel to successfully weather the storm of 24th and 25th August, 1873, in the Gulf of St. Lawrence, which was disastrous to the shipping in general. The *Druid* was at that time in the

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vicinity of Prince Edward Island, and several vessels in the immediate neighbourhood, were lost with all on board.

30th April, 1873.—Arrived at the wharf from winter quarters, at 7 p.m.

5th May,—Left at 8 a.m. with the buoys and Light-ships for the traverse and Lower St. Lawrence with powder, and supplies for the fog gun and lighthouse at Green Islands. Returned on the 9th, at 7 p.m.

19th MAY.—Left at 1 p.m. to replace a buoy carried away in the traverse, and to survey the spot where the barque *Chryseis* was wrecked near St. Jean, Port Joli. Returned at 1 p.m. on 20th.

9th JUNE.—Left at 3 p.m. for Montreal, with the remains of the late Honorable Sir George Etienne Cartier, Baronet. Returned on the 12th at 3 a.m.

21st JUNE.—Left at 4 p.m. with His Excellency the Governor General and the Countess of Dufferin and suite, on a tour to the Lower Provinces, and returned in September.

THE SCHOONER "LACANADIENNE."

The expenditure attending the outfit and services of this vessel, also comes under the supervision of this branch. The service performed is reported upon by Commander Lavoie.

SCHOONER "STELLA MARIS."—MARINE POLICE.

This chartered schooner, for the protection of the fisheries, was in service from the early part of May to the 22nd October, 1872, when her crew were paid off, and the vessel handed over to the owner, being no longer required. Such outfit as belonged to the Department has come into the general use of this branch. One of her nine-pounder guns being sent as a fog cannon to Bird Rocks, the other to replace the old one at Belle Isle. Her operations were reported upon by Commander Lachance.

FISH BREEDING.

The disbursements connected with this service have been attended to by me during the past season to the extent of $1,500, but will be very much increased next year.

I have, &c.,

J. U. GREGORY,

Agent at Quebec of Department of Marine and Fisheries.

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STATEMENT of Expenditure on account of Maintenance of Lights below Quebec, for the Fiscal Year ended 30th June, 1873.

	$ cts.	$ cts.
Portneuf.		
A. Rodrigue, 12 months' salary as keeper	200 00	
Maintenance and repairs	495 39	
		695 39
St. Antoine.		
L. Lafleur, 12 months' salary as keeper	140 00	
Maintenance and repairs	28 69	
		168 69
St. Croix.		
J. Thurber, 12 months' salary as keeper	140 00	
Maintenance and repairs	169 39	
		309 39
Pt. St. Laurent.		
J. Chabot, 12 months' salary as keeper	300 00	
Maintenance and repairs	9 23	
		309 23
Bellechasse.		
E. Thivierge, 12 months' salary as keeper	320 00	
Maintenance and repairs	26 22	
		346 22
Crane Island.		
J. Painchaud, 12 months' salary as keeper	320 00	
Maintenance and repairs	231 55	
		551 55
Pillars.		
D. Babin, 12 months' salary as keeper	450 00	
Maintenance and repairs	449 01	
		899 01
Kamouraska.		
T. R. Desjardin, 12 months' salary as keeper	350 00	
Maintenance and repairs	298 58	
		648 58
Pilgrims.		
A. Marquis, 12 months' salary as keeper	340 00	
Maintenance and repairs	337 23	
		677 23
Brandy Pots.		
J. D. Picard, 12 months' salary as keeper	400 00	
Maintenance and repairs	265 44	
		665 44
Red Island.		
E. Fraser, 12 months' salary as keeper	660 00	
Maintenance and repairs	301 77	
		961 77
Carried forward		

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STATEMENT of Expenditure on account of Maintenance of Lights, &c.—*Continued.*

	$ cts.	$ cts.
Brought forward.. ..	.....	
Green Island.		
G. Lindsay, 12 months' salary as keeper.....	860 00	
Maintenance and repairs	683 37	
		1,543 30
Bicquet.		
J. F. Bechard, 12 months' salary as keeper.....	760 00	
Maintenance and repairs	225 05	
		985 05
Father Point.		
D. Lawson, 12 months' salary as keeper.....	200 00	
J. Hippell, Assistant do	140 00	
Maintenance and repairs	323 15	
		663 15
Bird Rocks.		
J. Chapman, balance of wages, as keeper, 30th June, '72.....	600 00	
Wages as keeper do do	575 55	
G. Priston and Assistants, salary for keeping do	1,355 09	
Maintenance and repairs	2,060 08	
		4,590 63
Cape Rosier.		
A. Trudeau, 12 months' salary as keeper	800 00	
Maintenance and repairs	265 03	
		1,065 03
West Point Anticosti.		
L. Malouin, 12 months' salary as keeper.....	800 00	
Maintenance and repairs	369 28	
		1,169 28
South West Point, Anticosti.		
E. Pope, 12 months' salary as keeper	800 00	
Maintenance and repairs	106 75	
		906 75
East Point, Anticosti.		
T. Gagne, 12 months' salary as keeper.....	800 00	
Maintenance and repairs	280 62	
		1,080 62
Forteau.		
P. Godier, 12 months' salary as keeper	820 00	
Maintenance and repairs	360 35	
		1,180 35
Belle Isle.		
M. Colton and Assistant, 12 months' salary as keeper.....	1,060 00	
Maintenance and repairs	1,196 69	
		2,256 69
Paspebiac.		
F. Galle, 9 months' salary	112 50	
L. Strong, 3 do	37 50	
Maintenance and repairs	158 08	
		308 08
Carried forward.....		

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STATEMENT of Expenditure on account of Maintenance of Lights, &c.—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	
Point Rich.		
E. Roy, 12 months' salary	500 00	
Maintenance and repairs	810 35	
		1,310 35
Monte du Lac.		
E. Simard, 12 months' salary as keeper.....	300 00	
Maintenance and repairs	128 25	
		428 25
South Point, Anticosti.		
D. Tetu, 12 months' salary as keeper.....	1,026 50	
Maintenance and repairs	2,381 34	
		3,407 84
Amherst Island.		
W. C. Cormier, 12 months' salary as keeper...	300 00	
Maintenance and repairs	242 80	
		542 80
River Magdalen.		
P. Savage, 12 months' salary as keeper...	300 00	
Maintenance and repairs	233 38	
		533 38
Cape Ray.		
R. Rennie, 12 months' salary as keeper.....	600 00	
Maintenance and repairs	685 72	
		1,285 72
Cape Chatte.		
J. Roy, 12 months' salary as keeper.....	300 00	
Maintenance and repairs	370 78	
		670 78
Red Island.		
Captain Leveseque, Contract for navigating Light Ship...	2,400 00	
Maintenance and repairs	3,063 05	
		5,463 05
B. Bradley, balance of salary, Provision Depots.....	5 97	
R. Setter, 12 months' salary, Provision Depots	200 00	
Maintenance and repairs	1,605 26	
		1,811 23
Seven Islands.		
A. Riverin, wages as keeper	325 00	
Mainter ance and repairs	975 87	
		1,300 87
Gaspé Harbor.		
B. Eden, salary	42 00	
Maintenance and repairs.....	133 06	
		175 06
Carried forward.....	.....	

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STATEMENT of Expenditure on account of Maintenance of Lights, &c.—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	
Traverse.		
Capt. Gourdeau, Contract for Navigating Light Ship.....	1,820 00	
Maintenance and repairs.....	962 90	
		2,782 90
Gaspé.		
J. Ascah, salary, Light Ship.....	300 00	
Maintenance and repairs.....	66 45	
		366 45
Cape Norman.		
H. Locke, salary and arrears.....	430 11	
do 6 months' salary, to 30th June.....	247 91	
Maintenance and repairs.....	213 07	
		891 09
Upper Traverse.		
A. M. Dechene, Contract navigating Light Ship.....	1,400 00	
Maintenance and repairs.....	1,216 43	
		2,616 43
Egg Island.		
P. Cote, 12 months' salary.....	500 00	
Maintenance and repairs.....	641 35	
		1,141 35
Carlton Point.		
E. Landry, 12 months' salary.....	200 00	
Maintenance and repairs.....	369 25	
		569 25
Lark Islet.		
Jos. Radford, wages as keeper.....	229 25	
P. Boulliaine wages to 30th June.....	83 50	
Maintenance and repairs.....	5 10	
		317 85
Buoys and Beacons.		
Maintenance and repairs.....		1,347 67
Manicouagan.		
J. U. Gregory, pay list, navigating Light Ship.....	1,175 40	
J. McAvity and Son, hardware, &c. do	562 17	
W. Muirhead, outfits, wages, &c. do	887 60	
J. Hoonan, provisions do	461 06	
J. Dawe, steam winch do	450 00	
R. R. Call, coal do	187 50	
E. Chanteloup, lantern do	513 55	
J. U. Gregory, maintenance and repairs do	1,162 80	
		5,400 08
Point des Monts.		
P. Pouliot, salary as keeper.....	327 50	
F. Faffard, and Assistant keeper.....	460 28	
Maintenance and repairs.....	175 23	
		963 01
Carried forward.....	.....	

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STATEMENT of Expenditure on account of Maintenance of Lights, &c.—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	
General Account.		
Archer & Co.—lumber	615 30	
M. Hamel—hay	174 56	
J. Marmen—cartage	346 71	
Middleton & Dawson—stationery	222 92	
Lane—lumber	161 91	
A. Kane—tanks	405 00	
E. Chanteloup—chimneys	161 25	
F. O. Vallerand—chimneys	131 40	
F. A. Fitzgerald & Co.—oil	3,138 40	
Grenier & Parent—cooperage, &c	375 70	
L. Gagne—repairs	514 96	
Gibb & Laird—soap, &c	161 08	
Legit & Renfret—flannel, &c	165 00	
J. C. Hamel—storage oil	106 13	
W. Barbour—repairs	504 25	
L. A. Blanchet—disbursements	147 44	
S. Bedard—repairs	248 40	
Chenic & Beaudet—nails	62 63	
H. S. Scott & Co.—chain	53 06	
N. Fitzhenry—wages	273 50	
Crawford & Son—coals	55 38	
Allan, Rae & Co.—freight	54 73	
S. P. Divey—stationery	23 85	
S. Peters—lumber	69 17	
Montreal Telegraph Company—messages	101 81	
G. T. Carey—advertising	49 20	
T. Drysdale—repairs	56 00	
E. E. Buteau—disbursements	169 60	
Tweedell & Campbell—repairs	41 68	
Audet & Robitaille—rope	53 08	
M. Millar—stationery	24 75	
A. Cote & Co.—advertising	25 80	
Hamel & Freres—flannel	11 50	
P. G. Huot—postages	77 96	
H. Plumondon—duties	18 00	
Richelieu Co.—freight	10 75	
L. H. Huot—printing	74 24	
G. T. Phillips—repairs	56 20	
J. P. Dery—stationery	63 85	
J. Eden—storage, &c	14 40	
Dinning & Webster—canvas	90 77	
J. Giblin—coal	18 00	
Union Glass Co.—chimneys	38 02	
J. Carrol—prining, &c	84 50	
C. Daguet—clocks	49 25	
H. H. Para—soap	13 50	
W. S. Maguire—advertising	11 20	
W. Bowden—advertising	15 00	
T. Berryman—carting snow	20 00	
H. Black—hardware	29 89	
C. Wagner—batteau hire	24 00	
A. Piverin—freight	14 50	
A. Mathieu—cement	24 00	
Mitchell & Co.—paint	508 36	
J. U. Gregory—sundry disbursements	275 55	
		10,238 09
		65,545 00

WM. SMITH,

Deputy of Minister of Marine and Fisheries.

OTTAWA, 1st Oct., 1873.

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APPENDIX No. 7.

REPORT OF THE NEW BRUNSWICK AGENCY OF THE DEPARTMENT OF MARINE AND FISHERIES FOR THE FISCAL YEAR ENDED THE 30TH JUNE, 1873.

AGENCY OF THE DEPARTMENT OF MARINE AND FISHERIES,
SAINT JOHN, NEW BRUNSWICK, September 24th, 1873.

SIR,—I have the honour to report upon the operations of the Agency of the Department, for the year ended, the 30th June, 1873.

LIGHTHOUSE AND COAST SERVICE.

A detailed statement of the expenditure in connection with the different Lighthouses, cost of maintenance and improvements for the present fiscal year, will be found in the appendix annexed to this report.

The increased number of new Lighthouses and Fog Alarms, with the changes in the lamps and apparatus in the old buildings, together with those still undergoing important improvements, has largely increased the business in connection with this agency of the Department.

The total expenditure for Lights and Coast Service for the fiscal year, ended the 30th June, 1873, was $29,266.85.

PARTRIDGE ISLAND,

The improvements and changes made in the lamps and burners at this station, by the substitution of the mammoth flat-wick and large sized circular burners, in place of the half-inch formerly in use, as referred to in my last annual report, has been very marked, and the improvement gives much satisfaction. The increased consumption of oil per month, by the new lamps now in use over the old, is 118 gallons.

There are now fourteen lamps in this lantern, eleven of them being the mammoth flat-wick and three circular burners, being an increase of two lights, twelve being the number formerly used.

The alteration and improvement made in the road from the new wharf at the east end of the Island, now passing close by the Lighthouse, and extending to the Fog Alarm at the western end, has proved a great convenience, and justifies the expenditure. No difficulty or delay now arises in placing the fuel and supplies directly into both buildings. There still remains a small portion of the road near the eastern end of the Island which was not completed until after the present year's accounts were closed. Mr. Alexander Reed, who has for thirty-eight years faithfully discharged the duties of Light-keeper at this station, has been superannuated, owing to impaired health and injuries received while in this service, fully certified to by reliable and competent medical men. His superannuation dates from the first of July, but Mr. Reed remained in charge until the fourth of August. Mr. James Wilson, the engineer in charge of the Fog Alarm, has been appointed to the duty of Light-keeper at this station in addition to the charge of the Fog Alarm, at an annual salary of $800, out of which he is to pay an assistant. By this arrangement an annual saving is made to the Department of $340.00, without impairing the efficiency and proper working of either service.

BEACON LIGHT.

The light at this station is well maintained by Mr. Timothy Clark, who has been appointed at the same rate of pay as given to Mr. Ross, the former keeper. During the last year, the Beacon Block has been subjected to

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several severe storms, the heaviest of which was that of the 30th of November last, at which time the waves made a clean sweep over the block, and extended some eight or ten feet above it up on the Lighthouse tower, ripping off the shingles, carrying away the railing, as well as undermining and washing out some of the under timbers. Mr. Clarke states that the whole block appeared to lift every time it was struck by one of those mighty and ponderous waves which rolled along the Western Channel and dashed with such fearful violence on all parts of the St. John Harbour.

It was considered by many as more violent than the Saxby gale, so called, which committed such havoc in our bays and harbours.

At Point Lepreaux the sea rolled up to the same height as in the Saxby gale, and was more severely felt there. It was during this gale that the schooner "Reward" was driven from her anchorage and wrecked on the "Fowl Ground" in this harbour, where four of the crew met a watery grave.

The most important repairs required at the Beacon, were promptly attended to. Mr. Clarke, more recently made an opening in the deck for the purpose of examining the inside of the Block, and it was found that several of the timbers had been forced out of place; there was also a space of some seven feet next below the deck without ballast. Mr. Clark has repaired and bolted down the timber, and is now filling up the vacant space with ballast, the cost of which when completed will be moderate, and will greatly add to the strength and permanency of the block.

Point Lepreaux.

In accordance with your instructions, important changes have been made in the lamps and reflectors at this station. All the old lamps and reflectors have been removed and large new lamps with mammoth flat-wick burners, together with new reflectors, of eighteen and twenty-two inches diameter are now in use, instead of the half-inch flat-wick burners and small flat reflectors formerly used. This change cannot fail to be of the greatest importance to vessels navigating the Bay of Fundy. I am informed that Point Lepreaux light can now be seen distinctly at Head Harbour station and north end of Grand Manan—some twenty miles distant. The quantity of oil consumed nightly by the new burners is four quarts one pint and one gill during the summer months, while that of the old lamps for the corresponding months of the previous year was only two quarts and one pint, showing the present consumption of oil to be nearly double the quantity consumed by the old burners.

The two lanterns on this Lighthouse are old style, with small panes of 12 × 14 glass, set in wide, flat sashes, which being so near together, greatly obstruct and diminish the rays of light. It is to be hoped that the old lanterns will, before long, be superseded by new ones, with one large single pane of plate glass to each side of the lantern, such as are now used in those recently erected, through which all the rays of light can pass unobstructed.

Bliss Island.

The light at this station is well maintained by Mr. Jarvis Clark. Mr. George Thomas informs me that it can be distinctly seen at Point Lepreaux. The lantern is built of wood, with English plate glass windows of large size, and exhibits a Red Light clearly distinguishing it from other stations, and is a most valuable guide to vessels entering Etang Harbour and River. The eastern passage of "Passmaquody Bay," "St. Andrew's," and "St. Stephen," and likewise for vessels bound to "Head Harbour" passage, or the Eastern Harbour of "Deer Island," as well as all the other harbours adjacent to Bliss Island, and is also of great service to lead ships which are bound up the north channel towards Saint John, clear of "Bliss Island," "Dead Man's Head" and Ledge. An oil store was erected at this station last winter by Mr. George Helms, under

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a contract made with him, the work and materials being satisfactory, the building was taken off his hands in June. A landing near the oil store can be made at a moderate cost, by which the supplies can be landed close up to the oil store by blasting away a few rocks in a small channel which extends well up to the building. At present it is difficult to get them from the beach to the station, but this is deferred for the present, as the difficulties here are light compared with those of other stations where landing slips are being provided, to which reference is hereafter made under the proper heading.

Head Harbour.

The approaches to this station are difficult, particularly when any sea is rolling on, as the landing has been carried away. The breast-work on the eastern side of the Lighthouse has proved a great protection to the building, as the sea had made a large breach extending close to the foundation of the Lighthouse. New landing-ways will shortly be completed here for conveying the stores and other materials over the rocks, and enable the keeper to launch and raise his boat as occasion may require.

The whole space occupied by this station is very limited, and another short piece of wharf may be found necessary on the north-west side of the building to prevent further encroachments of the sea. The lantern at this station is of iron, but the panes of glass and window sashes are small, though considerably larger than those in Point Lepreaux lantern. The lamps used are the small half-inch flat-wick sun-burners, which give but a feeble light. These will shortly be changed, and the Mammoth flat-wick burners substituted, by which the light will be doubled in power and brilliancy.

The keeper's dwelling needs repairing, and the roof shingling, the old wooden water cistern in the cellar has become nearly useless, and a new one is much needed. This cistern, together with some of the iron tanks, are the only means of retaining fresh water taken from the roof of the dwelling, from which the supply is obtained.

St. Andrew's.

This station was not visited this season, but the repairs required have been moderate, and the keeper was directed to have them attended to.

Southern Wolf.

The light on this Island, now in charge of Mr. Edward Snell, is a flash light of great brilliancy, and observable at a great distance. Mr. George Thomas, the light-keeper at Lepreaux, informs me that the Southern Wolf Light is seen distinctly from his station, and on a clear evening three lights are observable at Point Lepreaux, viz., Southern Wolf, Cape Spencer, and Bliss Island. During last last winter the machinery by which the flash is produced worked irregularly and at times stopped, or was only kept moving with considerable difficulty.

Information to that effect having been communicated to me, Mr. Hevernor a machinist, was sent from Saint John, and found the difficulty arising from the intensity of the cold congealing the oil on the wheels. After cleaning them, a small stove was placed near the works, and the difficulty removed.

The stone wall under the building was poorly built at first by the contractor, of which you were advised by the report of the inspector at the time, consequently, the frost entered the cellar and injured the brick water tank.

In all our new Lighthouses an inside partition should be made near to the wall, lathed and plastered, leaving a small space for dead air between the wall and the partition, and this would prevent the frost from entering and destroying the water tanks, as in the case of Point Lepreaux, Head Harbour wooden cistern, and the Southern Wolf. As there is no regular conveyance to this Island, it is therefore difficult to get men to it, or when there, away from it,—the repairs have not therefore been attended to as yet. The keeper, in the meantime, makes use of the new oil tanks for holding water. A shed over the cellar

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door on the north side of the house for a protection from the north winds, would materially help to keep the cold winds off and prevent the frost from entering the cellar by the door, which at present is unprotected. This difficulty, with the defective wall and the want of an inside partition as referred to above, prevented the keeper from saving his vegetables.

The building occupies a high and exposed position, unprotected from the winds at all points of the compass.

Swallow Tail Light.

Considerable work was necessary on the foundation of this Lighthouse. The building was supported upon pieces of wood under the sills.

The foundation wall was originally built partly upon the earth and partly upon the rock, and the rains and frost removed the earth and heaved the wall from under the building; and were it not for the care exercised by Mr. Kent, the late keeper, this immense building would have sagged down to one side or the other, if not overthrown by some of the gales of wind which rake with such violence across the elevated and exposed situation. A mason was sent to the place, with instructions to remove all the earth from the rock under the building, and erect a good substantial wall from the solid rock up, laying the stone in cement. The stone for the wall was quarried and delivered at the spot during last year, so that no detention occurred to prevent the workmen from speedily completing the job. I am now informed that the work has been faithfully done, and that the Lighthouse is now secure, resting on a good, substantial stone wall, founded in all parts upon the solid rock below.

The landing-ways being old and partly decayed, were also damaged by the Saxby gale, and again by that of the 30th of November last.

The materials for repairing it were sent with the supplies, except the timber, which it was found could be procured cheaper near the Station. Directions were left with Mr. John Kent to have the ways repaired, as these furnished the only means of getting the supplies up to the Lighthouse, which is situated at a great height above the water.

A shed was needed at the top of the landing as a store-house, and also for protecting the keeper's boat from the weather. The lumber having been ordered by Mr. John Kent for this purpose, permission was given to have it built. The building has been completed, but not so plain and inexpensive as was directed.

It is found very expensive to get work performed at most of the fishing stations during the summer, as the inhabitants are chiefly employed either catching or preserving their fish, ordinary labour being two dollars to two-fifty per day and boarding, while in some cases it can scarcely be had at twice that amount. I am under the impression that where the means of transportation are direct, that the work of the Department can be performed cheaper by mechanics sent from Saint John; and when finished at one place, to go to the next where their services may be required.

Mr. Jonathan Kent, who has so long occupied the position of Light-keeper at this station, owing to his advanced age and infirmities, was placed on the Superannuated List by Order in Council of the 30th May, taking effect from the 1st July next, on an annual allowance of $176.76, and his son Mr. John W. Kent, was appointed Light-keeper at this Station at a salary of $400 per annum.

Machias Seal Island.

This station, at the entrance to the Bay of Fundy, forms one of the most important lights in connection with the Department.

There are two Lighthouses on this Island, one of which is a dioptric and the other catoptric.

The dioptric is the largest under the supervision of this agency of the Department, and when properly managed must give a light of great power and brilliancy. During a part of the season, the rachet for elevating and lowering the wick was out of order, and

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the means of repair not being convenient, Mr. Conley had three small flat-wick burners inserted into the bowl containing the supply of oil for burning. These were being used, instead of the large circular burner belonging to the lamp. This difference must have greatly diminished the power of the light for the time being.

When the Agent visited this station he found this still existing.

The defective part was brought to Saint John and repaired, and a spare burner also made and sent back as a reserve, with directions to have the large circular burner at once replaced and lighted. I am in hopes that this has been done, and that this light is now restored to its full power and brilliancy.

The old Lighthouse still remains, and is regularly lighted, but the contrast between the two is very marked; and mariners at a distance have sometimes supposed the old light to be that of a dwelling.

The Lighthouses required painting, and arrangements were made with Messrs. Clark and Stackhouse to perform this work, as they have men employed on the Island erecting the Fog Alarm Building, and consequently can do it cheaper than it can be performed by any others. They agreed to charge the time the men are employed at the same rate of wages, as they pay them while they are engaged in labouring for themselves at the Fog Alarm. A coal shed is also needed, and they have engaged to build it; and also the landing ways extending down to about half tide over the rocks, so that the coal and supplies for this station may be delivered direct to the Fog Alarm and Lighthouse sheds by a car, to be drawn up by a rope attached to a pulley driven by the engine of the Fog Alarm.

Gannet Rock.

The gale of the 30th of November last partly destroyed this landing, and did some damage to the bottom of the buildings surrounding the Lighthouse. Timber and other materials on the rock for repairs were swept away. Between the Saxby gale and that of the 30th of November last, all the Light-house stations have suffered severely. It was found difficult this summer to land even the smaller supplies at Gannet Rock. Mr. McLaughlan had the timber for the new landing-ways at the place, and would lose no time in having the most important part of the work completed.

When the Agent visited this station, the surface of the sea was comparatively smooth, yet a heavy surf rolled up and broke with great violence around all parts of the rock, so that a landing was effected with some difficulty, as it had to be made by going in with the breakers. The heavy articles were taken to Seal Harbour, and given in charge of Mr. McLaughlan, to be removed to the station by a small vessel when calm, and the landing repaired.

The buildings were kept neat and clean, and showed that the keeper in charge was careful and attentive to the duties of his situation, which at best must be very lonely, as the buildings almost cover the entire rock, situated some seven miles or more out in the open sea.

Cape Spencer.

This Lighthouse is situated some three hundred feet above the water on what is termed the Pitch of the Cape, and is without exception one of the finest lights in the Bay of Fundy, and was first lighted on the 15th June. Mr. G. C. Blacklock was appointed keeper. The buildings were erected by Messrs. Clark and Stackhouse, the workmanship and materials all having passed a careful inspection, were taken over by the Department. The lantern and lighting apparatus were made by Mr. E. Chantetoup, of Montreal, and is a great improvement on the old style of lanterns adopted and in use in most all the older Lighthouses. This light is a white and red flash.

The white flash has been seen at a distance of thirty-four nautical miles, and so reported by several persons who have taken observation and measured the distance on the chart. This applies to the white flash. I am not yet fully advised as to the greatest distance at which the red flash has been seen; but from what has been reported, I am

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under the impression that something like ten miles is the greatest distance it has been seen.

This may not be near the extent or distance it can be observed, but future reports will more correctly determine. My own impression is, that the distance at which the red light may be seen might be greatly increased if the colour of the glass was not so deep a red. If the shade was more of a bright pink colour, it might be seen much farther.

I have not, however, sufficient knowledge or practical experience to advise the Department with reference to the best colour or shade of red to be adopted. I have before me in the office two shades of glass, one a deep red and the other a pink colour, and from the appearance of the two, I should judge that the rays of light could be seen at a much greater distance through the pink, and yet throw a red light, than through the deeper colour.

This matter may have been fully decided upon, but if not, it is deserving of careful investigation, in order to get the best results from actual experiments made with the different shades of red.

Quaco.

Mr. Love, the keeper, reported that the block surrounding the Lighthouse, and for its protection, was seriously damaged by the gale of the 30th November, 1872, and he was fearful that the whole of the south-eastern end might be washed away if left in its present dilapidated condition.

Arrangements have therefore been made with Mr. Carson to build a small block, ballasting it well, on which he could take up and support the timbers of the old face of the block, replacing new ones so far as he found necessary. By these arrangements, I have no doubt but the structure will be protected for the present. The lights at this station are well maintained, and Mr. Love, the keeper, is desirous of giving satisfaction.

Cape Enrage.

Mr. George Tingly, the keeper of this light, reported that the storm of the 30th of November last was the severest experienced in that quarter for the last thirty years—that it swept off and destroyed all the fencing on the place. The sea rose so high as to reach his boat-house, high up on the Cape, and carried it away, breaking the boat, and damaging the wharf, which required repairing at once, or it would all be swept away before spring. Glass was broken in all the windows, and two of the large panes of glass in the lantern of the Lighthouse were also broken. He dared not attempt to go out of the house while the gale was at its height. The damages were at once repaired, and the expenditure appears in the general account of maintenance.

Grindstone Island.

No damage by the gale of the 30th November occurred to this station, and the annual expenses of maintenance embraces only the ordinary Lighthouse supplies; and I am informed that a steady and uniform light is maintained at this station, though the lamps are all the small sized flat-wicks. It is in contemplation to change the burners at this station, so soon as the work can be conveniently attended to.

Saint John River Lights.

There are six minor or beacon lights on the river Saint John, between Indian Town and Fredericton, which are carefully attended to, and at moderate cost; also three in Grand Lake, which connects with the same river. Two of these are new Lighthouses, but will not be lighted until a date subsequent to this report. One of these on Robertson's Point, and the other on Fanjoy's Point. The sites were selected by John Ferris, Esq., and the positions are without doubt the best that could have been made for vessels navigating the Lake.

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Mr. John Robertson and Mr. William Fanjoy have been appointed keepers of these new stations respectively.

The Beacon on Cox's Point, in an exposed position, requires additional bracing and another window on the south side, as a guide for vessels entering Cumberland Bay: this will be attended to, and the tower properly strengthened.

Buoys and Beacons.

Most of the buoys and beacons in the different harbours and entrances to the same, are under the management of commissioners at the respective Ports. The bills for repairs and general maintenance are returned quarterly to this office for payment.

It was found necessary for the protection of the block at the western bar and sand reef in the Saint Andrew's Harbour, to undergo certain repairs, which was accordingly done by Mr. George Gilley, under the superintendence of W. Whitlock, Esq., the commissioner, amounting to $96.50, which will appear in the next annual account.

Bliss Harbour.

Spar Buoys of large size have been placed on the "Man-of-War Rock," in this harbour, under the supervision of Mr. James Campbell, the Commissioner, the cost of which, including commissions, is $93.50, a statement of which has been forwarded and will also appear in the annual account ending 30th June, 1874.

Bell Buoy.

This buoy is situated at the eastern end of Partridge Island, and is a most important guide for vessels entering and departing from the harbour of St. John. From its exposed position, it is subjected to severe tests, and always being in motion, is frequently thrown about with great violence, the wear and tear therefore, on the boat, machinery and ground tackle is very great. The bell on the tower was broken, and also the springs which throw back the hammer required repairing, as well as the hull of the boat painting. These repairs necessitated the removal of this buoy to St. John, where the necessary repairs were completed under the supervision of Mr. John Lewis. While these repairs were being made, a Can Buoy was moored in the same position occupied by the Bell Buoy, and due notice of the change given in the local papers.

Life Buoys.

All the light-keepers at dangerous positions both in the Bay of Fundy and the Gulf Stations have been supplied with life-preservers and life-buoys, with ropes attached for the purpose of saving life in the event of wrecks.

It was judged that keepers of the lights would be reluctant to venture out into a small boat to save the lives of others while they had not the means of protecting themselves. The Department, therefore, decided to furnish each keeper with a life-preserver fitting snugly round his own body before entering the boat, and also with a large life-buoy attached to the boat by a rope to throw to persons in peril. Many lives might in this way be preserved. The frequent occurrence of wrecks upon our coast has impressed the Department with the necessity for adopting such means as may prove effectual in saving life. Good boats are supplied, and inducements held out in the way of honorary rewards and money compensation to awaken a spirit of manly enterprise and courage in this important part of the service, and it has not been without its effect. Mr. Cline, the late keeper of the Southern Wolf light, was successful in rescuing the six men the crew of the *Tempo*, 143 tons, on the 17th December last, wrecked and left in a most perilous position on Green Rock, one of the islands of the Southern Wolves, which services were duly acknowledged by the Department.

There are in connection with this agency of the Department fifty Lighthouses, including the minor lights, one Fog Alarm on Partridge Island, and one on Point Lepreaux, together with one at Point Miscou at the entrance to the Bay of Chaleur,

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and three more under contract in the Bay of Fundy, to be erected at the following places, viz: "Cape Enrage," north end of Grand Manan, and "Machias Seal Island." Fog trumpets have also been supplied to the light-keepers in exposed positions, to be blown in answer to call from vessels, to warn them of danger, and guide them into the rivers and harbours adjacent.

The supplies were mostly delivered by the Government steamer *Lady Head*, which rendered important service not only in delivering the supplies to the Lighthouses when needed, but also in affording the Agent an opportunity of visiting the different stations in the Bay, and gaining a knowledge of their situation and efficiency.

The oil was supplied in good season and of better quality than when first obtained from Canada, and each season the quality is approaching nearer to the requirements of the service.

I have the honor to submit the report of Mr. James Mitchell, the Inspector, on the different Lighthouses in connection with the New Brunswick agency of the Department, in the Gulf of St. Lawrence.

I have the honor to be, Sir,

Your most obedient servant,

J. H. HARDING.

THE HONORABLE PETER MITCHELL,
Minister of Marine and Fisheries, Ottawa.

REPORT OF INSPECTOR OF LIGHTS.

TO THE AGENT OF THE DEPARTMENT OF MARINE AND FISHERIES, SAINT JOHN, N. B.

SIR,—Having been instructed by the Department that the steamer *Napoleon* would visit the Straits of Northumberland and Baie des Chaleur, I accordingly went on board, and visited Jourimain Lighthouse, in company with Mr. Barbour, the chief engineer of the boat.

We found all the buildings in good order, and Mr. Bent, the keeper, rendered all the assistance wanted in landing the necessary supplies.

CASSIE'S CAPE.

Mr. Barbour, in company with myself, visited this Light, found it in good order, and in every respect as represented.

This is a revolving light, very powerful, and spoken of very highly by masters of vessels and pilots.

The only difficulty is the want of water, and I would suggest that a well should be sunk.

RICHIBUCTO LIGHT.

This Light was visited by me in connection with Mr. Barbour, chief engineer of the steamer. Since my last visit in December, 1872, the building has been painted, and at the present time requires no more improvements.

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TRACADIE LIGHT.

In company with Mr. Barbour, chief engineer of the steamer *Napoleon*, we landed at this place on the 6th July, and inspected it thoroughly, found everything to our satisfaction, and landed all the supplies necessary. This station exhibits a fixed white light.

SHIPPEGAN LIGHT.

This Light I visited on the 6th July, found everything in perfect order, and landed all the supplies necessary for the station.

This is also a fixed white light, but should have a Beacon Light, in connection, to show the channel.

MISCOU LIGHT.

This station I also visited, and landed the necessary supplies, with paint and oil sufficient to give the building a brighter appearance.

The lamps I found in perfect order, and the building inside perfectly neat and clean.

An engine-house has been erected at this station, and coal and all other things necessary landed to put the Fog Alarm in operation when placed.

The light here is a fixed red.

FOX ISLAND.

Mr. Barbour, the chief engineer, in company with myself, inspected this station.

There are four Beacons on this island. Robert Rainsberry has charge of the two lower Beacons, and Wood Williston is in charge of the two on the upper end.

These stations are all in good order, and have received the necessary supplies.

SHELDRAKE ISLAND.

Two new Beacons have been erected here this season, at a cost of five hundred dollars, and those who have seen them, and known to be competent judges, speak in flattering terms.

The former keeper, Mr. Cameron, took sick and left, and has been replaced by Mr. John McKay.

OAK POINT.

There are two Beacons at this station. Their usual supply has been furnished, together with materials for painting, which I have instructed to be done.

GRANT'S BEACONS

There are also two Beacons at this station, which are both in perfect order. The usual supplies of oil and small stores have been furnished.

ESCUMINAC LIGHT.

This Light was visited on the 2nd July. I found everything in perfect order. This is a fixed white light, and visible at a great distance.

Mr. William Hay, the former keeper of this light, died this season, and his place has been filled by Mr. Thomas Phillips, who, in every respect, is capable of filling the charge.

PRESTON'S BEACH.

There are two Beacons at this point, as guides to mariners. The lights exhibited here are both white, and are very highly spoken of.

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Portage Island.

I visited this Island on the 4th July, and found everything in good order. The chief engineer of the steamer, in connection with myself, examined the lights and found everything as perfect as could be wished for.

The lantern at this station should be changed, as the glass now in use is far too small, and obstructs the light. Larger glass would remedy the evil.

Caraquet Island.

The dwelling and Lighthouse at this station are under one roof. The keeper was unfortunately drowned last autumn in crossing to the Island, but his family still continue to attend the light as usual.

I landed the usual supplies necessary for this station, and found everything clean and in good order.

Dalhousie Light.

This station I have visited twice this season. Found the lamps a little out of repair. I sent them to Quebec, and had them put in good order. This is also a fixed white light.

Neguac Gully.

There has been a small Tower Light House erected on the north east side of this Gully. This is a fixed white light, thirty five feet above high water, and can be seen at a distance of eleven miles. Was first exhibited on the twentieth day of August. Farnham Letson is keeper at this station.

Tabusintac Gully.

This is a square wooden building twenty feet high, painted white, with a tower elevated about thirty feet above high water mark, with a fixed red light, which can be seen in clear weather a distance of seven miles.

Marine Hospital.

There has been an expenditure of one hundred and twenty dollars and ninety cent beyond the ordinary outlay for wages and maintenance, for the past year.

The building has been repaired, the fence painted, and every part appears neat and comfortable.

Richibucto Marine Hospital.

This building is sadly in want of painting and other improvements. The necessity for a wood shed and out-house is very much felt. Attached to this station is one acre of ground, which should be fenced; and as there is at present no person to look after it, I would suggest that some person capable of looking after this place should be immediately appointed. A married man would be the most suitable for this place.

Light Ship.

This vessel exhibits a fixed red light, is schooner rigged, and placed on the inner Horse Shoe Bar between Fox and Portage Island in Miramichi Bay.

This light is at an elevation of thirty-five feet above high water mark, and may be seen at a distance of eight miles. The illuminating apparatus is catoptric, and was first shewn on the twelfth day of July.

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Buoys and Beacons.

In this service, on account of the severe storms on the coast and the ice making so rapidly last fall, I have been obliged to expend more money than usual.

The expense has chiefly arisen from the fact that the buoys generally required replacing, they having been seriously misplaced during the recent heavy storms. The price of labour having also increased makes the sum expended appear high, although the most rigid economy has been exercised.

General Remarks.

The oil supplied this year has proved so far satisfactory. The casks good, held in quantity what they were represented.

New galvanized oil tanks have been furnished by the Department for Lighthouses which had not been previously supplied.

My time has been so occupied in attending to special orders received from the Department to perform duties outside the limits of this Province, that up to this time I have been unable to visit all the Lighthouses, but will during the Fall, endeavour to visit those on the Bay of Fundy, and if possible, the whole of those under my inspection.

J. MITCHELL.

Newcastle, Miramichi,
September, 1873.

Inspector of Lights, &c.,
New Brunswick.

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STATEMENT of Expenditure in connection with Maintenance of Lights, New Brunswick, for the fiscal year ended 30th June, 1873.

	$ cts.	$ cts.
St. John.		
E. Rose, salary as keeper of beacon light	400 00	
Maintenance and repairs	497 26	
		897 26
Oak Point.		
J. Coughlan, salary as keeper	100 00	
Maintenance and repairs	35 41	
		135 41
Preston Beach.		
P. Lewis, salary as keeper	100 00	
Maintenance and repairs	63 49	
		163 49
Fox Island.		
R. Rainsboro, salary as keeper	230 42	
C. Rogers, do	199 17	
Maintenance and repairs	238 96	
		668 55
Cape Enrage.		
G. Tingley, salary as keeper	400 00	
Maintenance and repairs	94 52	
		494 52
Oak Point, River St. John.		
C. Theal, salary as keeper		80 00
Caraquet Island.		
T. Kerr, salary as keeper	200 00	
Maintenance and repairs	213 83	
		413 83
Escuminac.		
W. Hay, salary as keeper	400 00	
Maintenance and repairs	229 39	
		629 39
Gannet Rock.		
W. B. McLaughlin, salary as keeper	840 00	
Maintenance and repairs	1,316 37	
		2,156 37
Grindstone Island.		
J. Clarke, salary as keeper	200 00	
J. R. Styles, do	200 00	
Maintenance and repairs	106 23	
		506 23
Grant's Beach.		
F. Russell, salary as keeper	100 00	
Maintenance and repairs	7 30	
		107 30
Carried forward		

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STATEMENT of Expenditure in connection with Maintenance of Lights, New Brunswick, for the Fiscal Year ended 30th June, 1873—*Continued.*

	$ cts.	$ cts.
Brought forward		
Green Head		
J. N. Williams, salary as keeper	80 00	
Maintenance and repairs	28 65	
		108 65
Head Harbor.		
H. McLaughlin, salary as keeper	400 00	
Maintenance and repairs	486 88	
		886 88
No Man's Friend.		
E. Buzza, salary as keeper		80 00
Machias Island.		
J. Conley, salary as keeper	664 00	
Maintenance and repairs	331 12	
		995 12
Miscou.		
G. McConnell, salary as keeper	500 00	
Maintenance and repairs	116 40	
		616 40
Point Lepreau.		
G. Thomas, salary as keeper	400 00	
Maintenance and repairs	115 19	
		515 19
Partridge Island.		
A. Reed, salary as keeper	500 00	
Maintenance and repairs	894 56	
		1,394 56
Portage Island.		
G. Davidson, salary as keeper	200 00	
Maintenance and repairs	38 84	
		238 84
Quaco Light.		
W. Love, salary as keeper	400 00	
Maintenance and repairs	116 60	
		516 60
Richibucto.		
F. Richard, salary as keeper	160 00	
Maintenance and repairs	18 54	
		178 54
Cape Jourimain.		
J. Bent, salary as keeper	200 00	
Maintenance and repairs	221 00	
		421 00
Carried forward		

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STATEMENT of Expenditure in connection with Maintenance of Lights, New Brunswick, for the Fiscal Year ended 30th June, 1873—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
Sand Point.		
J. W. Caulfield, salary as keeper.....	80 00	
Maintenance and repairs	2 12	
		82 12
Shediac Island.		
H. Hendrickson, salary as keeper.....	200 00	
Maintenance and repairs.....	17 92	
		217 92
St. Andrew's.		
G. Pendlebury, salary as keeper	300 00	
Maintenance and repairs.....	48 24	
		348 24
Swallow Tail.		
J. Kent, salary as keeper...	400 00	
Maintenance and repairs.....	602 97	
		1,002 97
Wilmot's Bluff.		
J. D. Wilmot, salary as keeper.....	.....	80 00
Bliss Harbor.		
J. Clark, salary as keeper.....	225 00	
Maintenance and repairs.....	216 69	
		441 69
Bathurst Minor Lights.		
J. Connors, salary as keeper.....	80 00	
Maintenance and repairs	20 50	
		100 50
Dalhousie.		
L. Arseneau, salary as keeper	100 00	
Maintenance and repairs.....	11 75	
		111 75
Southern Wolf.		
W. Cline, salary as keeper.....	500 00	
do Balance salary to 30th June	10 35	
Maintenance and repairs	322 35	
		832 70
Cox's Point.		
M. J. Cox, salary as keeper	80 00	
Maintenance and repairs	5 10	
		85 10
Oromocto Shoals.		
J. R. Hazen, salary as keeper.....	80 00	
Maintenance and repairs	2 00	
		82 00
Carried forward.....	.....	.....

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STATEMENT of Expenditure in connection with Maintenance of Lights, New Brunswick, for the Fiscal Year ended 30th June, 1873—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
Cassie's Point.		
C. P. Leblanc, salary as keeper.....	207 82	
Maintenance and repairs.....	52 94	
		260 76
Tracadie.		
W. Archer, salary as keeper.....	170 22	
Maintenance and repairs.....	45 88	
		216 10
Reeds Point Light.		
J. S. Knowles, Gas Bill, etc.....	.....	75 98
Shippegan.		
F. Demaresque, salary.....	170 22	
Maintenance and repairs.....	50 01	
		220 23
Cape Spencer.		
J. R. Cameron & Co., oil, etc.....	118 80	
J. H. Harding, sundry disbursements.....	96 50	
		215 30
Partridge Island.		
J. Wilson, salary, fog whistle.....	400 00	
S. Handren, salary, assistant, fog whistle.....	240 00	
Maintenance and repairs.....	1,599 11	
		2,236 11
Point Lepreau.		
W. Gallant, maintenance and repairs, fog whistle.....	400 00	
Maintenance and repairs.....	1,033 53	
		1,433 53
		20,247 13
BUOYS AND BEACONS.		
Partridge Island.		
J. Bridges, lifting chains.....	20 00	
J. McAvity & Sons, hire of tackle.....	10 00	
		30 00
Miramichi.		
H. Kelly, new buoy.....	20 00	
F. Martin, lifting.....	135 00	
J. Walls, laying, etc.....	197 00	
J. Harley, cartage.....	14 50	
B. Pourier, placing, etc.....	14 00	
M. Martin, lifting.....	8 00	
J. McAvity & Son, hoop iron.....	13 69	
A. McDerman, new buoy.....	30 00	
J. W. Thorn, towing can buoy.....	8 00	
C. Sargent, painting, etc.....	76 25	
		516 44
Carried forward.....	.....	.....

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STATEMENT of Expenditure in connection with Maintenance of Lights, New Brunswick, for the Fiscal Year ended 30th June, 1873—*Continued.*

	$ cts.	$ cts.
Brought forward		
Caraquet.		
R. Young, placing, etc		119 97
Richibucto.		
J. Wheaton, new buoys		272 23
Shediac.		
G. C. Berryman, new buoy	54 20	
A. Davidson, freight	2 86	
P. White, lifting	16 00	
		73 06
Cocaigne.		
T. Ewing, placing, etc		25 20
St. George.		
J. Campbell, lifting, etc		253 00
Shippegan.		
W. Taylor, lifting, etc		401 71
Bathurst.		
J. Ferguson, laying, etc		182 95
Buctouche.		
H. B. Smith, new buoy, etc		97 90
St. Stephen.		
Z. Chipman, placing, etc		35 20
St. Andrew's.		
W. Whitlock, repairs		221 96
Dalhousie.		
D. Stewart, placing, etc		88 35
Neguac.		
J. Mitchell, picking up buoys		7 59
Sheldrake Island.		
J. Walls, labour	8 00	
W. Andrews, freight	6 00	
J. Coughlan, clearing woods	8 00	
		22 00
		2,347 47
Carried forward		

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STATEMENT of Expenditure in connection with Maintenance of Lights, New Brunswick, for the Fiscal Year ended 30th June, 1873—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
GENERAL ACCOUNT.		
J. Mitchell, travelling expenses and disbursements as inspector.....	1,067 41	
J. Mitchell, 12 months' salary as inspector of lights.....	1,200 00	
J. Cussack, cartage on oil	8 70	
T. C. Wilmore, telegraph.....	39 14	
W. Smith, testing oil.....	35 00	
F. Drake, rent of storehouse.....	50 00	
R. R. Call, freight on oil.....	165 93	
Mitchell & Co., paint, etc	267 59	
C. G. Berryman, oil cans, etc..	331 22	
W. Murdock, books.....	12 00	
S. Hanks, carting oil.....	5 40	
W. Austin, horse hire.....	7 50	
J. Haws, & Co., paint, oil, etc...	743 47	
J. Mitchell, selecting light.....	65 00	
W. M. Smith, travelling expenses...	26 11	
E. Willis, advertising.....	34 50	
Geo. Helms, freight supplies.....	243 00	
J. Norman, paint, etc.....	67 80	
J. Fairweather, storage	15 96	
D. Connell, cartage	9 95	
H. T. Stephens, advertising	15 00	
G. W. Day, do	41 50	
W. Elder, do	54 00	
F. Robidou, do	28 60	
M. McLeod do	41 90	
J. King, boating.....	289 40	
J. R. Cameron & Co., chimneys, etc.....	138 95	
W. & J. Anslow, advertising	8 80	
P. Cowley, cartage	4 00	
E. Willis, advertising	24 10	
F. J. Harding, labour.....	24 68	
St. Andrews *Standard*, advertising	14 00	
E. Lantelums, iron work	31 80	
Small and Hatheway, freight on oil.....	3 45	
W. H. Tuck, preparing copy act, etc	150 83	
H. Chubb & Co., printing.....	23 31	
H. & J. H. Phinney, oil cans.....	10 28	
W. H. Austin, horse hire	8 00	
D. Main, advertising.....	18 00	
P. Sheridan, freight.....	7 39	
E. Wilson, cartage, etc.....	4 00	
J. Foster, freight	8 60	
G. McKean, freight.....	48 63	
Bowes & Evans, oil tanks	190 40	
M. A. Tracy, advertising.....	20 80	
Orr & Ritchie do	29 00	
G. W. Day, printing.....	15 50	
A. Young, repairing lamps	39 03	
A. Mills, freight.....	12 00	
W. Watt, oil, etc	319 21	
J. Johnson, postage.....	22 85	
J. H. Stone, freight	12 50	
W. & J. Austin, printing.....	41 10	
J. Anderson, gauging oil	22 65	
R. A. Smith, telegraphing.....	21 70	
George Garrison, delivering oil.....	4 00	
G. F. Smith, life buoys	38 18	
J. Grey, repairing lanterns	117 00	
Carried forward.....	.....	.....

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STATEMENT of Expenditure in connection with Maintenance of Lights, New Brunswick, for the Fiscal year ended 30th June, 1873—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
GENERAL ACCOUNT.		
Z. G. Gabel, life buoys.....	39 20	
T. M. Robinson, telegraphing.....	103 56	
W. Frith, wharfage, *Lady Head*.....	26 53	
J. H. Harding, travelling expenses and petty disbursements	202 14	
		6,672 25

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

OTTAWA, 1st October, 1873.

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APPENDIX No. 8.

REPORT OF THE AGENT FOR NOVA SCOTIA OF THE DEPARTMENT OF MARINE AND FISHERIES FOR THE FISCAL YEAR ENDED 30TH JUNE, 1873.

DEPARTMENT OF MARINE AND FISHERIES,
NOVA SCOTIA AGENCY,
HALIFAX, 25th September, 1873.

To the Honorable P. MITCHELL,
Minister of Marine and Fisheries, &c., &c., &c.

SIR,—I have the honor to forward the following brief report of the operations of this agency of your Department for the fiscal year which ended on the 30th June last.

In my last report I referred to the delay which had occurred at Country Harbor Light in consequence of damage to the lantern in transmission from Montreal. A new lantern was supplied and erected during the spring, and the Light was exhibited for the first time on the 1st of May last. The Tower which is a square wooden building, painted white, and twenty-eight feet high, is placed on the South point of Green Island, Guysboro' County, and shews a fixed white Light elevated fifty-one feet above high water, and being visible from fourteen to sixteen miles, serves the purpose of a coast Light as well as a guide into Country and Fishermans' Harbors. Mr. William B. Foster was appointed keeper at an annual salary of $400.

The Fog Whistle on Brier Island to which reference was also made, has been in successful operation since the 1st March, under the charge of Mr. John Cormack, Engineer. This Fog Whistle is situated on the north west Point of Brier Island, Digby County, at the south side of the Light House. During thick and foggy weather and snow storms, it is sounded three times in each minute, as follows :—a blast of four seconds, with an interval of four seconds ; then another blast and interval of the same duration ; and finally a third blast of four seconds, with an interval of forty seconds, which completes the minute.

A small Lighthouse has been built at Mullin's Point, on the north side of the entrance to Wallace Harbor, in Cumberland County. It is a fixed white light, elevated thirty nine feet above high water. The Tower is a square wooden building, painted white, twenty-five feet high. The contract was given to Mr. Zebud Mullins, for $300. The light was first exhibited on the 1st August last, and is under the temporary charge of the builder. Mr. Benjamin Smith has since been appointed keeper at an annual Salary of $100.

Port Mouton Light, for the purpose of guiding vessels into the Harbor of that name, is situated on the north east point of Spectacle Island, Queen's County, and shews a fixed red light, elevated forty-seven feet above high water. The Tower, which is painted white, is a square wooden structure, twenty feet high, and was erected by Mr. G. S. Parker for the contract price of $665. The Light was put in operation on the 1st September, 1873, and is under the temporary charge of Mr. Patrick Burgess, who receives $2 per day.

Shelburne Harbor Light, which is a fixed red one, elevated sixty-seven feet above the level of high water, is situated on Sand Point, east side of the entrance to Shelburne Harbor. The Tower, a square wooden building, is painted white, and was erected by Mr George De Champ for the sum of $725. The Light was first shewn on the 1st September, 1873, and is intended as a guide to Shelburne Harbor, and to mark the dangers of Sand Point. Mr. Edward Goudock was appointed keeper, at an annual salary of $200.

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Besides the above Lights, the following are in course of construction :—

Small Lighthouse Tower at Walton Harbor, Hants County, contracted for by Mr. Timothy Parker, for $620. This building is now finished and awaits inspection by the Superintendent, before being lighted.

Creighton Head or West Arichat, was contracted for by Mr. William Tory, for the sum of $650. The building was nearly completed and ready for lighting when it was blown over by the terrific gale of the 24th August last.

Two Lights on the Bars d'or Lake, Cape Breton, are under contract—one situated on McKenzie's Point, near Plaster Harbor, and the other at McNeil's Point, Grand Narrows. Mr. William Tory was awarded the contract for these buildings, the first for $800, and the other, which is now nearly finished, for $775.

A Lighthouse is also being erected at Green Island, Margaret's Bay, and is now nearly completed and ready for the revolving apparatus. Mr. Alex. Sinclair is the contractor, and for the Lighthouse and Oil Shed is to receive $1,484.

Mr. Francis Ryerson was awarded the contract, amounting to $2,875, for erecting a Pier and Lighthouse on the west end of Bunker's Island, at the entrance to Yarmouth Harbor.

Contracts have also been given for the building of Lighthouses on Point Aconi at Little Bras d'or, and on Lingan Head, the former of which is in a good state of forwardness.

The Lighthouse Tower on the west end of Sable Island is nearly finished, and together with the Fog Whistle at the same place, will probably be placed in operation during the autumn. Dwellings for the Engineers at the east and west ends have also been erected during the past season.

Sites have been selected for Lighthouses, at Cape North, Cape George, Bon Portage Island, and Whitehead Island, Yarmouth County.

An iron Lightship, to be anchored at the entrance to Halifax Harbor, arrived here on the 10th August last. This vessel was built by Messrs. Richardson, Duck & Co., at South Stockton-on-Tees. She is 91 feet long, main width 20 feet, depth of hold 11.15 feet, has two masts, and is 135.11 tons. The vessel is painted red, with "Halifax" painted in white letters on both sides, and a red ball at each mast-head. The lightship will be moored in 45 fathoms of water off the entrance to Halifax Harbor, in Lat. 44° 24′ 20″ N., and Long., 63° 27′ 30″ W. Sambro Light will bear from it N.W. $\frac{1}{4}$, W. $4\frac{3}{4}$ miles. Chebucto Head Light N. $\frac{1}{4}$ W. $6\frac{1}{4}$ miles. Devil's Island Light N. by E. $\frac{7}{8}$ E., $10\frac{3}{4}$ miles, and Portuguese Buoy N. $\frac{7}{8}$ E., 8 miles. A fixed white light will be exhibited from each mast thirty-nine feet apart, visible probably twelve miles, the centre of the lantern being thirty-one feet above the water line. A steam Fog Whistle, furnished from the manufactory of Messrs. W. S. Symonds & Co., will be placed on board the vessel, and will be sounded in thick and foggy weather and snow storms, for twelve seconds in each minute, leaving an interval of 48 seconds between each blast.

The Lightship will probably be moored in the position indicated above, early in November. Many of the masters of steamers and other vessels visiting this Port frequently anticipate the best results from the placing of this vessel. The Fog Whistle cannot, I think, fail to prove a very valuable aid in thick weather.*

The cost of this vessel does not appear in the accounts herewith, which are only brought up to the 30th June last.

The usual annual repairs to the Lighthouses have been performed during the past season, as far as possible, under the supervision of Capt. Kendrick, the Superintendent, who reports the several Light Stations visited by him in a satisfactory condition, and the keepers assiduous in the discharge of their duties. A store and boat-house have been built near the landing at Chebucto Head Station. The chimney above the roof of the building was blown down during the gale of the 24th August, causing considerable damage to the roof, and the foundations of the building were also injured. The chimney has been rebuilt and the premises otherwise placed in good order.

* This Lightship having been disabled by a severe gale, was withdrawn from her station on the 20th November, and will continue so until further notice.

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At Sambro, new posts, steps and railings have been placed up the bluff side of the rock leading from the keeper's dwelling to the Lighthouse above, the foundation walls of which have been repointed with cement after having the old mortar cleaned out, the floors of the dwelling have been repaired, new sills, floor joists and floors have been placed in the building, which has been raised up and the foundation walls built a foot higher. The floor of the store and wood house have also been repaired, and new platforms made to the dwelling and store. The Light at this station is perhaps one of the most important on the coast, and an effort has been made during this season to improve it as far as possible. Five flat wick burner lamps were in use there with three circular burners to complete the circle, and eight A lamps and 12 inch reflectors placed round an iron frame above the larger lamps and so arranged as to illuminate the spaces between them. The flat wick lamps have been removed and their places supplied with circular burners with twenty inch reflectors; the small lamps continue as before, while three circular burner lamps, have been placed on the floor of the lantern turned towards the S., S.W. and S.E., with a very slight inclination forward in order to increase the power of the Light at a short distance.

The small dioptric light at Chester, not proving suitable for the lantern, has been taken down and its place supplied with lamps and reflectors.

At Mahone Bay arrangements have been made for an addition to the Lighthouse for the accommodation of the keeper and his family. A new oil store has been erected at Cross Island, and necessary repairs made to the dwelling and to the road leading from the landing to the Lighthouse. At Battery Point and Port Medway the dwellings have been repaired as well as the oil stores and landings.

A new iron lantern, glazed with plate glass, has been placed on the Lighthouse at Coffin's Island, and repairs have been made to the dwellings and barn. At Little Hope, the Lighthouse clock has been repaired at some expense, and a new roof supplied for the lantern.

Arrangements have been made to provide dwellings for the keepers at Carter's Island and Negro Island, and at the last-named station a landing is being constructed.

At Seal Island a road has been made from the landing on the east side to the Whistle House, about three quarters of a mile distant. This work has long been needed, and will much increase the facility of conveying fuel from the shore to the fog alarm, and of transporting Lighthouse and other supplies. From the rough and swampy nature of the ground, this road has caused considerable outlay, but it will prove a great convenience and economy in the end. A horse brought from Sable Island has been sent to this station to be used in hauling fuel and supplies.

At Cape St. Mary's, bedrooms have been partitioned off in the chamber of the Lighthouse for the keeper's family, and the digging of a well has been authorized.

Small repairs have been made to the keeper's dwelling at Boar's Head, a new fence placed around the Lighthouse, a well dug and the road improved. The road at Westport Station has also been placed in order. At Black Rock a new platform has been made for the Lighthouse, which has been painted, and the oil store repaired. A new boat has been supplied to Apple River, and a boatslip and shed built. The old breastwork at Parrsboro' has been repaired, a portion of which had been undermined by successive gales.

Last year an appropriation of $2,000 was made for the construction of a breakwater for the protection of the Lighthouse bar at this Station. The work was performed under the supervision of Alexander Macnab, Esq., C.E., it was completed in November last, and has proved entirely successful, it having withstood the heaviest gales of the season, besides having the effect of widening and raising the sand-bar. The length of the breakwater is 715 feet, 645 feet of which are covered with two-inch plank, and the whole is well ballasted. The width is ten feet, and the average height is about 5 feet; the total expenditure was $1,997.74.

Stone foundations have been built under the Engineer's dwelling at Cranberry Island, and substantial under pinning placed under the Whistle-house, store, and coal shed.

At Flint Island new sills have been supplied to the Lighthouse and porch, and

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the floors of both repaired. A protection work is being made around the Lighthouse at Sydney Harbor, and arrangements entered into for the erection of an oil store.

On St. Paul's Island, the tank for the supply of water to the Fog-Whistle has been thoroughly repaired, a coal shed built, and a road has been made from the Fog alarm to Humane Station, so that fuel and supplies can now be teamed from the landing at the Cove to the Whistle-house; this was formerly a matter of much difficulty, involving a large expenditure of time and labor.

The Fog Whistle at this station has been put in good repair, new windows and frames have been supplied for the Superintendent's dwelling house. A new clock and revolving apparatus have been made and placed in the south west Light. New guard irons and stays for the lantern have been put up and repairs made to the Lighthouse and keeper's dwelling. The foundations of the Lighthouse of the north east station have been repaired, and new iron guards and stays have been put to the lantern. The work performed at St. Paul's Island has required the services of a number of men for several weeks; they have been sent from Halifax, as this was found to be the most expeditious and economical course. The work on the Island is not yet entirely completed, but I trust will be finished towards the 1st October. Two trained horses have been taken from Sable Island, and landed at St. Paul's, together with sleds, harness, &c., for the use of the Department on the Island, and they will no doubt be found very useful, especially since the making of the new road.

During the same gale of the 24th August, which blew with terrific violence for some twenty-four hours, considerable damage was done to the Lighthouse and property situated at the more exposed points of the coast to the eastward of Halifax. Considering the continued force and duration of the storm, the wonder is that the Light Stations suffered so little actual damage.

While however, comparatively speaking, they escaped, hundreds of vessels with valuable cargoes were destroyed, though providentially the loss of life was small; wharves, stores, boats, and fishing materials and supplies of all kinds swept away, leaving numbers of families destitute.

The details of the ravages of this gale on the northern and eastern shores of this Province and in the Islands of Cape Breton and Prince Edward have no doubt been fully reported to the Department, and I will confine myself to a few particulars regarding some of the Light Stations.

Pictou Harbor Light suffered severly. The breakwater on the east side was all carried away, the dwelling house moved from its foundations and much injured, and the outbuildings swept away. The sea made a breach in the Lighthouse, upsetting the tanks, and destroying about 100 gallons of oil. Immediate steps were taken to place the premises in repair.

The Beacon Light at St. Ann's Beach was shifted about 20 feet from its correct position; it has, however, been replaced and the Light exhibited as usual. At Egg Island, though the Lighthouse and dwelling escaped without injury, the store situate in the most sheltered part of the Island was moved 27 inches on its foundations which will require to be renewed and the building secured with stays.

At Country Harbor a quantity of the plastering was shaken down and the house leaking. The small shed at the landing was destroyed and the road rendered completely impassable by the number of trees blown down and across it.

The Light on Scattari was blown out by the violence of the gale, and it was nearly an hour before it could be re-lighted, and then only by nailing down all the hatches, the Light-keeper remaining in the lantern all night. One of the outhouses was blown down; a Government boat hauled up on the beach for repairs and made fast, was blown away leaving the stern fast to the rope, the whale boat was hauled up in shelter of some fishing houses, the roof of one was blown off, and falling on the boat, crushed the gunwale on both sides, splitting some of the planks. The Superintendent, Mr. McLean, lost a dorey and ship's boat of his own, as well as a vessel with supplies lying in Mainadieu.

At Cranberry Island, at ten o'clock p.m., the sea was within a few feet of the Light-

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house and dwelling. From that time to midnight it ran completely over the Island, carrying away two boats from the sides of the buildings, where they had been placed for security, also about ten tons of coal. The wall under the store and in front of the dwelling were much injured. The wind tore the shingles off the Lighthouse porch and roof of the store, carried away the doors and tore up the fences, platforms, &c. The upper Light was out from 10 p.m. until daylight.

At Jerseyman's Island, the oil store floated westward fifty feet from its foundation, the water rose within two feet of the floor of the Lighthouse, but fortunately no further damage was done. A few tons of coal were swept away at St. Paul's Island, and accounts of more or less damage at some other stations have reached me. Steps have been taken to have repairs made with all practicable despatch, and with the exception of those named I have not heard of any instance in which the lights were obscured.

On the night of the 16th of March, the Lighthouse at Point Prim, at the entrance to Digby Gut, was entirely destroyed by fire, which was supposed to have originated in the lantern, which was very small and confined. In spite of the efforts of the keeper, the Lighthouse and all its contents were burned to the ground. A temporary light has since then been exhibited from a small lantern placed on the top of the engine house, distant only a few yards from the old site. But little real damage was caused by this fire, as the building destroyed was old, and every year becoming more and more unfit for the purposes of a Lighthouse. Tenders were asked for the construction of a new building, and I understand the contract for the work has been awarded.

The same contractors, Messrs. F. A. Fitzgerald & Co., supplied the oil this year as last. The quantity required for this Province was somewhat larger in consequence of the increased number of lights, and the more extended use of the large-sized circular-burner lamps. The oil was delivered here in two lots, as follows:—

7th June - - 10,930 gallons,
7th July - - 17,477½ „

Giving a total of 28,407½ gal. at 22¾ cents, $6,462.70.

compared with last year,

26,784 gal. at 23½ cents, $6,127.28.

The oil appears to be of the usual quality, and with the improved burners and large reflectors now in use, cannot fail to give a brilliant light.

The inspection of the Light Stations this year has been delayed to a later date than usual for several reasons. The steamer "Lady Head" sailed early in June with a full cargo of oil and supplies for the Western Lights. After landing her stores at the several localities, she was required by the New Brunswick agency to send some of the Bay Lights. It was intended upon her return to Halifax to despatch her to the Eastern Lights and Sable Island, but being required by the Department for other service, I succeeded after some delay in chartering a small schooner to take the oil, &c., to those Lights most in need. In consequence, however, of the adverse state of the wind and weather, a long time was occupied in supplying sixteen Light Stations, leaving at this date some nineteen as yet unvisited. The schooner is now loaded, and has been waiting for some days for a favorable opportunity to sail, when the Superintendent intends visiting the nearer stations, and then transferring to the "Lady Head" the balance of the oil, &c., for more expeditious and safe carriage to their several destinations. I would again respectfully call your attention to the urgent necessity of having a vessel (steamer if possible) at the disposal of this agency of the Department, for the exclusive purpose of supplying the Lights of this division, now 80 in number of attending to and coaling the Light-ship "Halifax" shortly to be placed in position, of looking after the proper laying and mooring of the rapidly increasing number of iron buoys which are every year being placed on exposed points off the coast, of visiting and supplying the Humane Establishments at Sable Island and other places, and of conveying fuel to these places and the various Fog Whistles in this Province. It is only during a few months that many of our more exposed stations can be advantageously visited;

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and to perform with efficiency the yearly work required, the services of a steamer for the months of June, July, August, and September, would be necessary. Sable Island must be communicated with two or three times before June, and as often after September, but it would not be necessary to keep a whole crew on pay except for the months indicated, as there would be no difficulty in getting men as they might be required.

The following changes have been made in the Light House Keepers, &c. :

After several changes at Digby, Mr. Shepherd J. Frost was appointed to take charge of the Station in April last, at a yearly salary of $800.

Mr. William Hayden having resigned the position of Engineer at Seal Island, Mr. Corning Crowell, son of the Light House Keeper, having obtained a satisfactory certificate, was appointed to succeed him.

Mr. Norman Campbell, Keeper of Beaver Island Light, by order in Council of 30th May, was superannuated from the 1st July at an allowance of $207.36; and his son, Norman McIvor Campbell, was appointed in his place at a salary of $400.

Mr. C. J. T. Fox, Keeper of Yarmouth Light and Fog Alarm, was placed on the superannuation list at a yearly allowance of $294.60, to take effect from 1st September, 1873, and his son, James Fox, was appointed to the vacancy at $800 per annum.

Mr. David George, who for many years has been Keeper of Meagher's Beach Light, will receive from the 1st Oct. next a superannuation allowance of $213.48. His successor is not yet appointed.

Mr. Simon Babin has been temporarily appointed to take the place of Mr. Chas. Boudrot, Keeper of Jerseyman's Island Light, who resigned that position.

A complete list of the buoys and beacons in this Province has been forwarded to the Department; and it will therefore be unnecessary to refer to them at any length. During the year a large number of iron can buoys have been made, some of which have been moored, while others are now on hand ready to be placed in the several localities for which they are designed next spring.

Can buoys have been placed at Pugwash Bar, at the Middle Ground between Pictou Island and Carriboo Island, at Sand Point in the Straits of Canso, at the South Bar Sydney Harbor, at the Roaring Bull Rock, Cape Canso, and at Port Medway South West Breaker. Five iron can buoys and moorings have been delivered at Port Hood, one of which is for Indigue shoal.

There are on hand

2 for Pictou Harbor,
1 „ Chimney Corner,
1 „ Hartfond Shoal, Arichat,
1 „ Helen Rock, Mainadieu,
1 „ S. W. Breaker off Sambro,

A wood beacon for the east end of Jerseyman's Island has been completed and shipped with the supplies for the Eastern light, and will be put up when delivered.

Buoys have been placed in Tucket River and Pubnico Harbor. In passing, spar buoys painted Black must be left on Port hand, Red on starboard. Red and Black horizontal bands may be passed on either hand.

At Sable Island farming operations have been carried on during the year as usual, but it will be unnecessary for me to refer to them in detail, as the Department has already received full reports on the subject from the Superintendent and Mr. McDonald. There has been an increase in the root crops, while the wild grass has not been as fine as usual.

Two wrecks have occurred during the year on Sable Island.

The French Packet, "Stella Maris," Theophile Mouton, master, from Halifax, bound to St. Peirre with a cargo of molasses, lumber, flour, &c., on the morning of the 27th of March last, struck on the south side of the Island during a thick fog, about half-a-mile from the Old Station. All hands were saved. A portion of the cargo was saved as well as some of the rigging and material, which were brought to Halifax, and sold for the benefit of all concerned. The vessel went to pieces.

On the 2nd June, the Superintendent reported the loss of the American Fishing

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Schooner, "Laura R. Burnham" of Gloucester. The vessel went ashore on the south side, about a mile from the House of Refuge; the captain endeavoured to get the vessel off, but was not able to succeed; he however communicated with some of the fishing vessels in the vicinity, who took on board his crew and cargo, as well as sails, rigging, anchors, &c.

The Superintendent of Sable Island after serving in that capacity for over eighteen years, during which time he never once was off the Island, asked to be relieved, and he and his family landed from the steamer "Lady Head" on the 8th September, 1873, at Sydney, C. B. Mr. Dodd has been a very faithful and efficient public officer, and has performed the duties of his responsible situation with energy and judgment. Mr. Duncan McDonald has been placed in temporary charge of the Island.

When visiting the Island a few weeks since, Capt. Matson in command of the "Lady Head," ascertained that a Newfoundland brigantine, called the "Minnie Bruce" was running right for the N. E. bar, when the Captain observed the light, and hauling his vessel up, passed over the bar in six fathoms of water. He acknowledged that had it not been for the light he would have lost his vessel and all on board. Capt. Matson also informs me that all the American fishermen he came in contact with speak in the highest terms of the light. This testimony is the more gratifying when it is remembered that the Light House was placed on Sable Island in the face of a good deal of difference of opinion as to their utility. The storm of the 24th August, was severely felt on the Island, but fortunately caused no damage there.

One wreck has occurred at St. Paul's Island, viz., the schooner "Ocean Belle," of Halifax, Capt. McLeod. She ran ashore on the north side of the Island on the night of the 2nd July; the crew and material of the vessel were saved, the schooner herself, proved a total loss.

The usual supplies in the way of food and clothing have been delivered at the Humane Establishments.

A reference to the various Accounts which are herewith, will shew the items of expenditure in the case of the various services of which I have spoken, as well as those others coming under the control of this Department to which no special reference has been made, such as—Dominion Steamers, Sick and Distressed Seamen, Investigation of Wrecks, Examination of Masters and Mates, Fisheries, &c. The total expenditure for the fiscal year was $217,405.78.

I have the honor to be, Sir,

Your obedient servant,

H. W. JOHNSTON.

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc., in Nova Scotia, for the Fiscal Year ended 30th June, 1873.

	$ cts.	$ cts.
Amet Island.		
H. G. Bennet, salary	488 56	
J. A. Elliott, stove	18 71	
		507 27
Annapolis.		
R. A. Dakin, salary	557 00	
S. J. Frost, salary	57 88	
Fraser, Reynolds & Co., supplies	26 68	
T. A. Hughes, labor, etc	16 82	
A. W. Savary, telegraphic message	2 00	
R. Condon, cartage	13 00	
Hughes Ruel & Co., supplies	140 09	
J. Bowser, board and labor	15 00	
A. H. Raud, labor and assistant	20 50	
Wm. McLeod, advertising	2 40	
R. Pickford, supplies	6 55	
		857 92
Apple River.		
James Tate, salary	371 31	
do boats	123 00	
W. K. Reynolds, winch	26 25	
		520 56
Arichat.		
Joseph Coste, salary		226 68
Barrington.		
James S. Smith, salary	371 31	
do freight	2 50	
		373 81
Black Rock Light.		
John Cretty, salary	87 75	
J. S. Robinson, salary	264 00	
W. S. Symonds, stove	11 00	
J. S. Robinson, oil room, etc	20 00	
		382 75
Beaver Island.		
Norman Campbell, salary	341 85	
N. Mc I. Campbell, salary	65 83	
W. H. Tully, lumber	40 24	
Fraser, Reynolds & Co., supplies	5 50	
N. Campbell, barn	20 00	
J. E. Butler, oars	4 80	
		478 22
Bird Island.		
A. Ross, salary	380 83	
do supplies, etc	63 00	
W. S. Symonds, ironwork, etc	111 75	
Fraser Reynolds, & Co., supplies	35 79	
E. Moseley, derrick	103 60	
W. Ross, painting	27 60	
		732 57
Carried forward		

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
Black Rock Point.		
Donald Morrison, salary	341 97	
do stove	30 00	
do making road	60 00	
Burns & Murray, truckage, etc	26 25	
		458 22
Boar's Head.		
H. M. Ruggles, salary	390 83	
do lumber.....	181 00	
		571 83
Brier Island.		
Joseph Suthern, salary.....	449 48	
W. & O. Silver, hauling stones	6 00	
W. S. Symonds & Co., stove	13 00	
Fraser, Reynolds & Co., supplies.....	6 75	
		475 23
Burnt Coat.		
Nathan Smith, salary	60 94	
do painting	7 00	
John S. Smith, salary.....	183 34	
W. S. Symonds, supplies	14 00	
R. J. Sweet, supplies	4 00	
		269 28
Canso Harbor.		
John Langley, salary.....	195 42	
do boat	16 00	
C. Taylor, surveying land.....	13 00	
		224 42
Cape Sable.		
Isaac Doane, salary	469 00	
H. Moseley, oars	9 90	
W. S. Symonds, & Co., supplies.....	14 90	
		493 80
Cape Canso.		
James Hanlon, salary.....	488 56	
Fraser, Reynolds, & Co., supplies.....	1 75	
W. H. Tully, shingles and lumber.....	126 50	
Josiah Hull, altering guards.....	19 50	
A. Bain, lumber	27 03	
James McDonald, repairs.....	80 89	
		744 23
Cape St. George.		
David Condon, salary.....	469 00	
do truckage.....	2 50	
		471 50
Cape St. Mary's.		
Maturin Robichau, salary.....	.....	488 56
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forword.....	.....	....
Carribou Island.		
Alexander Munro, salary.....	.....	390 83
Carter's Island.		
James Lloyd, salary.....	195 42	
do boat.....	30 00	
W. S. Symonds & Co., supplies.....	31 85	
		257 27
Chester.		
Edward Young, salary.....	390 83	
E. Chanteloup, chimneys.....	25 50	
W. S. Symonds & Co., supplies.....	30 00	
Fraser, Reynolds & Co., supplies.....	17 18	
Alexander Robinson, blacksmith.....	39 68	
William Hyson, freight.....	2 00	
		505 19
Chebucto Head.		
Edward Johnson, salary.....	390 83	
do labour, etc.....	16 50	
do road.....	191 25	
do moving oil shed.....	20 50	
do landing place.....	42 00	
do boarding men.....	12 00	
Ben Pellepas, boat.....	24 00	
J. S. Van Buskirk, survey & plan.....	6 00	
W. S. Symonds & Co., supplies.....	35 40	
Smith & Kay, chimney crocks.....	2 00	
Alex. Robinson, blacksmith work.....	2 00	
J. Bowser, topping chimneys.....	28 25	
J. Monaghan, cement.....	2 00	
Fraser Reynolds & Co., supplies.....	11 34	
J. Hogan & Sons, lumber.....	8 20	
		792 27
Cheticamp.		
Edward Briard, salary.....	321 58	
C. Thompson, freight supplies.....	21 00	
W. S. Symonds & Co., supplies.....	22 79	
P. Rolin, & Co., supplies.....	58 40	
		423 77
Country Harbor.		
W. B. Foster, salary.....	390 83	
do boat.....	44 00	
N. S. Railway, freight.....	10 00	
W. S. Symonds & Co., supplies.....	6 70	
Fraser, Reynolds & Co., supplies.....	2 68	
James McDonald, taking care of light house.....	56 00	
		510 21
Cross Island.		
G. E. Smith, salary.....	449 48	
W. S. Symonds & Co., stove.....	7 00	
E. Ozener, hauling oil.....	4 00	
		460 48
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
Devil's Island.		
B. Fulker, salary.....	371 31	
J. Bowser, oil store, &c.....	378 14	
W. S. Symonds & Co., store.....	4 00	
		753 45
Egg Island.		
William Condon, salary.....	488 56	
do on account of boathouse, etc.....	60 00	
do balance do	70 00	
J. Findlay, returning boats.....	12 00	
Fraser, Reynolds & Co., supplies.....	10 50	
J. E. Butler, oars.....	5 50	
W. S. Symonds & Co., stove supplies.....	11 25	
		657 81
Fish Island.		
Joseph White, salary.....	.....	273 59
Flint Island.		
B. Heney, salary.....	390 50	
Fraser, Reynolds & Co., supplies.....	9 86	
A. Fordham, repairs.....	46 00	
		446 36
Fort Point.		
S. J. N. Sellon, salary.....	284 50	
		234 50
Green Island.		
William Dunn, salary.....	488 56	
E. Chanteloup, chimneys, etc.....	318 75	
B. O. Neil & Co., freight.....	3 60	
J. Haws, & Co., plate glass.....	185 28	
Fraser, Reynolds & Co., supplies.....	13 22	
Edward Johnson, boat and oars.....	29 00	
		1,038 41
Gull Rock Light.		
Samuel Hayden, salary.....	390 83	
do repairs.....	51 41	
T. A. Bishop, repairs.....	62 00	
D. O. Herbert, cement.....	10 25	
James Hayden, repairs.....	42 90	
		557 39
Guysboro'.		
Godfrey S. Peart, salary.....	.....	214 98
Horton Bluff.		
C. E. Rathkin, salary.....	244 28	
do painting.....	11 75	
		256 03
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward		
Ingonish.		
S. C. Campbell, salary	341 97	
do boat	19 00	
do to pay for land	60 00	
H. Chanteloup, chimneys, etc	25 50	
		446 47
Iron Bound.		
Enos Wolff, salary	351 75	
James McLaughlin, repairs	70 39	
		422 14
Jerseyman's Island.		
C. C. Boudrot, salary		293 14
Liscomb.		
Seth Crooks, salary	341 97	
do boat	12 00	
J. McKinlay, digging well	7 50	
		361 47
Little Hope.		
Charles Firth, salary	488 56	
do labor and repairs	138 95	
J. S. Banks, oil store	175 00	
W. S. Symonds & Co., supplies and repairs	83 23	
Fraser, Reynolds & Co., supplies	25 90	
R. H. Cogswell, clock	5 00	
		916 74
Liverpool.		
J. Eaton and C. Firth, salary	449 48	
W. S. Symonds & Co., supplies	100 18	
Fraser, Reynolds & Co., supplies	32 89	
		582 55
Louisburgh.		
L. Kavanagh, salary		449 48
Low Point.		
John G. Peters, salary	449 48	
do repairs	11 00	
Fraser, Reynolds & Co., supplies	5 17	
Smith & Kaye, chimneys, crocks, etc	5 25	
		470 90
Lunenburg.		
John A Emst., salary	293 14	
J. R. Goold, rent	00 73	
		293 87
Mahone Bay.		
Abram Zinck, salary	244 28	
Carried forward		

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward		
Mahone Bay—Continued.		
W. S. Symonds & Co., supplies	17 71	
James Zinck, boat, etc	54 00	
		315 99
Main a Dieu.		
J. Buck, salary		293 14
Margaree.		
N. C. McKeen, salary	390 83	
do chimneys	35 50	
William Boak, boat	15 50	
W. H. Tully, lumber	7 49	
Fraser, Reynolds & Co., supplies	14 39	
W. S. Symonds & Co., stove	10 00	
		473 71
Margaretville.		
William Early, salary		224 72
Meagher's Beach.		
David George, salary	390 83	
do board of workmen	104 00	
J. Bowser, repairs	256 30	
J. Monaghan, repairs	429 00	
Fraser, Reynolds & Co., supplies	48 14	
A. Brent, painting	28 88	
S. W. Marvin, plumbing	80 20	
S. McNab, fuel	120 00	
		1,457 35
Moser's Island.		
H. Moser, salary	439 70	
do painting	10 00	
E. Smith, furnishing chamber	125 00	
		574 70
Mullin's Point.		
Crosland & Burpe, iron tanks		12 50
Negro Island.		
James McKinnon, salary	195 42	
W. S. Symonds & Co., supplies and repairs	69 01	
Nathan Swain, altering floor	32 49	
R. H. Cogswell, clock	5 00	
J. H. Kendrick, making well	16 00	
		317 92
North Causo.		
George McKay, salary	449 48	
do truckage oil	1 00	
Fraser, Reynolds & Co., supplies	6 50	
Carried forward		

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....	....	.....
North Canso—Continued.		
P. Power & Co., repairs.....	11 60	
Edward Johnson, boat.....	28 00	
		496 58
Parrsboro'.		
William Armstrong, salary.....	332 23	
W. S. Symonds & Co, stove.....	16 65	
J. S. McLean & Co., painting.....	22 85	
		371 73
Peggy's Point.		
Edward Horn, salary.....	341 97	
Fraser, Reynolds & Co., supplies.....	2 63	
J. Bowser, furnishing chamber.....	136 50	
		481 10
Pictou.		
R. E. London, salary.....	449 48	
Fraser, Reynolds & Co., supplies.....	1 20	
		450 68
Pictou Island.		
Andrew Hogg, salary.....	.....	449 48
Point Tupper.		
J. McDonald, salary.....	195 42	
do repairs.....	13 75	
F. S. Cunningham, covered way.....	20 00	
do dwelling house.....	880 00	
W. S. Symonds & Co., stove.....	13 00	
		1,122 17
Pomket Island.		
John Atwater, salary.....	.....	341 97
Port L'Ebert.		
Martin Lisk, salary.....	100 00	
W. S. Symonds & Co., supplies.....	17 23	
		117 23
Port Hood.		
Thomas Power, salary.....	273 58	
do rebuilding foundation.....	26 90	
		300 48
Port Medway.		
Elson Perry, salary.....	254 06	
W. S. Symonds & Co., stove.....	10 00	
Redmond Donahoe, painting.....	12 37	
		276 43
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
Port Mouton.		
W. S. Symonds & Co., stove.....	.....	9 50
Port Williams.		
James M. Dunn, salary	.....	254 06
Pubnico.		
W. Amero, salary.....	234 50	
James Monaghan, labour in tanks.....	72 00	
W. Amero, oil house.....	145 75	
J. H. Kendrick, painting.....	19 00	
		471 25
Pubnash.		
R. F. Bent, salary.....	195 42	
do painting.....	14 66	
do labor.....	9 30	
John McDonald, fence.....	28 00	
		247 38
Sambro.		
William Gilkie, salary	390 83	
W. H. Tully, shingles.....	4 41	
Fraser, Reynolds & Co., supplies.....	21 08	
Jacob Bowser, repairs.....	74 09	
W. S. Symonds & Co., supplies.....	145 00	
Bould and Reynolds, shingles.....	11 15	
		646 56
Sand Point.		
J. Mundell, salary	.....	390 83
Scatterie.		
John McLean, salary	789 94	
do boat.....	115 65	
Fraser, Reynolds & Co., supplies.....	57 36	
Fraser, Panet & Co., cement	4 25	
S. F. Barss, cement and lime	12 40	
W. S. Symonds & Co., supplies..	83 37	
J. Bowser, repairs and labor.....	567 15	
J. Monaghan, plaster	2 00	
W. Butler, labor storage.....	2 50	
J. Hogan & Sons, lumber.....	24 39	
		1,659 01
Seal Island.		
T. C. Crowell, salary.....	469 00	
J. Findlay, repairing boat.....	4 20	
Edward Donahoe, boat.....	20 00	
Fraser, Reynolds & Co., supplies.....	35 20	
		528 40
Shelburne.		
Charles Stalker, salary.....	469 00	
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
Shelburne—Continued.		
William Muir, new boat, painting &c.....	102 03	
William Robertson, boat.....	9 00	
		580 03
Sissiboo.		
B. Amero, salary.....	.....	195 42
Shelburne Harbor.		
W. S. Symonds & Co., stove.....	9 50	
		9 50
Spencer's Point.		
R. A. Spencer, salary.....	100 00	
D. Rent, trucking oil.....	5 50	
		105 50
St. Ann's.		
J. Morrison, salary.....	100 00	
W. Ross, repairs and lumber.....	13 48	
W. Mawin, boat.....	12 00	
		125 48
St. Pauls, S.W. & N.E.		
Lauchlin McDougall, salary.....	460 39	
J. Haws & Co., re-silvering reflectors.....	358 39	
Fraser, Reynolds & Co., supplies.....	106 35	
Charles D. Campbell, lumber.....	132 17	
W. S. Symonds & Co., supplies.....	232 85	
do account revolving apparatus.....	300 00	
Smith Brothers, supplies.....	43 86	
		1,634 01
Sable Island.		
James Norman, salary.....	267 75	
H. W. Johnston, travelling expenses.....	36 50	
Lawson, Harrington & Co., Astral oil.....	77 65	
Joseph Tomlinson, services.....	17 50	
Fraser, Reynolds & Co., supplies.....	161 74	
T. Carroll, labour etc.....	369 40	
J. D. Potter, binocular glasses.....	45 41	
W. S. Symonds & Co., supplies.....	77 90	
Norris Best, paint.....	36 01	
J. McDaniel, coal.....	2 75	
		1,092 61
Sydney Bar.		
George Nunn, salary.....	195 42	
do coal.....	20 00	
W. S. Symonds & Co., stove and supplies.....	24 98	
		240 40
Walton.		
W. S. Symonds & Co., stove,.....	.....	9 50
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
West Port.		
John D. Suthern, salary.....	.....	293 14
White Head.		
James Dillon, salary	390 83	
R. Donahoe, hauling oil.....	5 25	
		396 08
Yarmouth.		
C. J. T. Fox, salary.....	469 00	
do painting, repairs, etc	43 50	
do hauling lumber.....	14 50	
do repairing wharf.....	25 50	
W. H. Tully, shingles.....	32 00	
Fraser, Reynolds & Co., supplies.....	11 56	
Nathan Butler, work and materials.....	38 74	
		634 80
Yarmouth Harbor.		
W. S. Symonds & Co., stove.....	.....	9 50
St. Paul's Humane Establishment.		
D. J. McNeill, and boatmen's salaries.....	1,570 66	
Crossland & Burpe, provisions.....	234 86	
Fraser, Reynolds & Co., supplies.....	44 50	
J. J. Screvin, bread.....	56 25	
Mitchell & Co., sled and harness.....	64 00	
		1,970 27
Scatterie Humane Establishment.		
Wilkinson, Wood & Co., flour.....	50 00	
M. F. Eagar, medicines.....	16 10	
P. Burke, freight of flour	3 30	
		69 40
Mud Island H. E.		
Boat establishment.....	.....	80 00
Seal Island H. E.		
Boat establishment.....	.....	120 00
Schooner "Ella G. McLean."		
W. H. Nauffts, provisions.....	319 38	
W. H. Tully, fuel.....	16 25	
Mitchell & Co., bread.....	82 79	
C. F. Clench, charter	1,750 00	
George W. Cook, pay lists and drafts.....	1,744 37	
E. Billenan, fish	7 60	
A. & H. Creighton, charts.....	2 90	
Lordly & Stempson, supplies.....	91 81	
J. McDaniel, wood	6 00	
John Parker, beef.....	112 70	
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
Schooner "Ella G. McLean,"—Continued.		
Davies & Co., dockage	9 60	
J. E. Butler, oars	4 20	
Peter Judge, water	2 28	
John Findlay, boat's rudder	2 00	
		4,151 88
Superintendent Light Houses.		
John H. Kendrick, salary	1,156 00	
" travelling expenses	642 73	
		1,798 73
Schooner, "S. J. Marshall."		
George Greening, labor, wages, crew, etc	142 66	
C. Neal, accounts, supplies and repairs	101 80	
A. Robinson, blacksmith's account	4 10	
T. Morris, wages	17 00	
		265 56
Light House and Coast Service.		
N. Russell & Co., oil tanks	425 00	
S. Cunard & Co., freight and wharfage	8 83	
Walter & Fulding, paint and oil	64 49	
H. Haverstock, packing boxes	60 00	
W. B. Hamilton & Co., coal bags	18 92	
S. Donovan, freight	10 80	
Wilkins & Co., paraffine burners	149 76	
James McDaniel, supplies	19 50	
Fitzgerald & Co., oil	7,950 70	
Railroad freights	44 96	
Fraser Reynolds & Co., supplies	1,551 40	
W. H. Tully, lumber	21 26	
E Chanteloup, supplies	3,495 17	
Chas. Neal, labor, truckages, etc	1,137 73	
Control Department, ammunition, etc	39 23	
Robertson, McLeod & Co., coal bags	57 20	
Davis & Co., rent and wharfage	636 41	
J. Melvin, cooperage accounts	135 74	
J. E. Butler, oars and supplies	22 30	
T. A. S. Dewolf, freight	69 42	
E. Nalder & F. B. Nichols, plating reflectors	105 00	
Feshweek's Express, express freight	6 32	
Sundry offices, insurances	91 00	
Chesholm and Barss, lime and cement	105 10	
J. R. Jennett & Co., supplies	34 00	
M. F. Eager, supplies	274 13	
J. P. Mott, soap	499 50	
G. Rent, lanterns and lamps	62 50	
R. H. Cogswell, supplies	74 00	
E. Mosley, boat plan, etc	74 70	
E. Shelnutt, freight	4 80	
J. Kaye, wharfage and storage oil	147 30	
J. Toulinson, travelling expenses	75 00	
Union Glass Co., glass chimneys, etc	1,357 67	
City of Halifax, water rates	40 00	
J. F. Philan, sundry freights	34 40	
J. Cameron, advance wages, J. H. Nickerson	25 00	
S. W. Marvin, supplies	396 79	
J. Haws & Co., supplies	1,615 22	
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
Light House and Coast Service—Continued.		
Newspapers, advertising.....	257 10	
Receiver-General, superannuation tax on light-house keepers' salaries.....	759 34	
W. S. Symonds & Co., supplies.....	8 74	
Smith Brothers, supplies.....	355 51	
J. Walsh, supplies.....	13 70	
J. Findlay, repairing boat.....	6 20	
J. W. & John Ritchie, consultation.....	4 87	
Sir W. Mitchell, 12 copies Commercial Code.....	32 06	
Western Union Telegraph Co., account, Feb., March, April, May & June.....	88 49	
S. L. Shannon, engrossing lease, Tobius wharf.....	15 00	
Post Office, postage accounts.....	186 92	
J. Monaghan, mason work.....	26 60	
J. Bowser, table for office.....	7 00	
A. & H. Creighton, book and chart.....	8 00	
Wilkinson, Wood & Co., freight.....	4 70	
J. Haws & Co., freight.....	21 68	
Alpin Grant, blank books, etc.....	75 00	
Grossland & Burpe, wharfage oil.....	11 60	
C. Creed, subscriptions to R. Room.....	3 00	
A. Stephens & Sons, brooms.....	32 90	
A. Robinson, blacksmith's work.....	51 27	
Tobin's estate, rent.....	300 00	
J. McGill, gauging oil.....	4 80	
C. Cummings, trucking and piling coals.....	56 00	
Burors & Mary, supplies.....	159 79	
		23,440 52
FOG WHISTLES.		
Cranberry Island.		
J. McDaniel, wood.....	28 89	
Robertson, McLeod & Co., coal.....	725 00	
W. Watt, freight fuel.....	345 00	
Fraser, Reynolds & Co., supplies.....	51 35	
W. Humphrey, wood.....	4 37	
W. H. Tully, plank.....	2 00	
W. M. Smith, services.....	66 50	
W. H. Nauffts, coal.....	3 35	
J. Cormack, salary.....	109 69	
Acadia Coal Co., coal.....	24 00	
James McDonald, wood.....	201 00	
W. McMurray, wheelbarrow, etc.....	23 15	
James Hanlon, salary.....	330 01	
Wylde, Hart & Co., labor.....	27 00	
James Hunter, supplies.....	7 00	
Crossland & Burpe, coals.....	193 50	
J. McAvity & Sons, valve.....	51 66	
		2,192 91
Seal Island.		
J. McDaniel, wood.....	22 00	
Robertson, McLeod & Co., coals.....	725 00	
G. Fleming & Sons, gauge cocks.....	6 60	
J. Crowell, hauling fuel.....	135 50	
J. Banks, freight fuel.....	340 00	
Smith & Kaye, bricks.....	234 00	
Crossland & Burpe, lime and cement.....	275 85	
R. H. Thomas, water, labor, etc.....	85 00	
W. Haydin, salary.....	395 76	
J. C. Crowell, jun., water, fuel, etc.....	594 25	
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc., —*Continued.*

	$ cts.	$ cts
Brought forward.....	.....	.....
Seal Island—Continued.		
B. K. Hutchins, lumber, cartage and fuel	335 15	
James Monaghan, labor on tanks	755 90	
Israel Wilson, board laborers	23 50	
W. M. Smith, supplies	2 55	
C. A. Hutchings, lumber	6 72	
W. Watt, passage laborers	12 50	
W. Robertson, hauling wood	10 00	
W. S. Symonds & Co., stove	15 00	
Coning Crowell, salary	98 60	
J. McAvity & Son, valve	51 60	
Crossland & Burpe, coals	579 22	
		4,704 70
Yarmouth.		
N. K. Clements, fuel	379 47	
W. M. Smith, supplies	113 00	
C. J. T. Fox, salary	390 83	
George Fleming & Sons, boiler pipes, etc	620 00	
Kurney, Haley & Co., supplies	93 33	
Fraser, Reynolds & Co., supplies	8 80	
Burnell, Johnson & Co., repairing boiler	333 65	
W. McLeod, advertising	20 00	
Z. G. Gabell, supplies	190 00	
T. McAvity & Sons, supplies	168 19	
		2,317 47
Digby.		
Fraser, Reynolds & Co., supplies	9 79	
D. Small, freight fuel	100 00	
do wood	120 00	
R. P. & J. McGiven, coals	771 25	
Wm. M. Smith, sundry accounts, supplies	153 24	
J. H. Kendrick, labor bills	17 50	
W. M. Smith, hauling coal	100 00	
G. G. Kendrick, engineer	15 00	
A. H. Rand, salary	486 81	
George Fleming & Sons, boiler plates	2 39	
Robert John Condon, labor	21 00	
Hughes, Ruel & Co., supplies	34 11	
Austin Adams, assistant engineer	43 75	
Shephard J. Frost, wages	77 88	
T. McAvity & Sons, supplies and valve	68 40	
R. H. Cogswell, spy-glass and clock	12 50	
		2,033 62
Brier Island.		
R. P. & W. McGiven, coals	216 00	
do freight of coals	280 00	
Daniel Boyd, wood	551 43	
John Cormack, salary and board	370 00	
W. M. Smith, insurance, coal	7 50	
T. McAvity & Sons, valve	51 60	
		1,476 53
Sambro.		
Joseph Gilkir, care buildings	10 00	
J. K. Goold, rent	00 49	
		10 94
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	....
St. Paul's Island.		
Robertson, McLeod & Co., coal.....	435 00	
J. Bowser, freight coal.....	185 00	
R. R. Call, conveyance.....	32 00	
do coal bags.....	73 50	
D. J. McNeill, labor.....	80 65	
Crossland & Burpee, coal	516 00	
Charles Stewart, salary.....	486 18	
		1,808 33
Sable Island.		
Fraser, Reynolds & Co., supplies.....	15 97	
Robertson, McLeod & Co., coal.....	217 15	
James Norman, salary	267 74	
John Hunter, supplies.....	12 30	
M. Phalin, bagging coal.....	5 10	
J. McAvity & Sons, valve	51 60	
Burns & Murray, bags.....	53 93	
McDonald & Co., lift pumps.....	38 00	
		661 79
		84,999 19
TOTAL EXPENDITURE.		
Maintenance of light houses	.....	69,793 35
do fog whistles	.....	15,205 84
		84,999 19

BUOYS AND BEACONS.

		$ cts.	$ cts.
Buoy Service at	Meregomish	30 00	
do	Guysboro'	20 00	
do	Pugwash.....	201 70	
do	Pugwash Bar.....	301 50	
do	Arichat	254 50	
do	Lunenburg	478 40	
do	Barrington.....	439 47	
do	Louisburg	39 00	
do	Meagher's Beach	77 30	
do	Lockeport	172 70	
do	Port Hood.....	2,116 70	
do	Shelburne.....	10 00	
do	Clyde River	234 68	
do	Carey's Shoal	64 00	
do	Port La Tour.....	35 00	
do	Cape Canso.....	473 50	
do	Canso	58 05	
do	Sydney.....	70 00	
do	Tusket	60 00	
do	Sand Point	317 45	
do	Chimney Corner	55 90	
do	Big Bras d 'Or	36 00	
do	Port Medway	261 50	
do	Carriboo Shoal.....	40 00	
A. Robinson, iron work		442 84	
	Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of Maintenance of Light Houses, Steam Fog Whistles, etc.,- -*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
BUOYS AND BEACONS—*Continued.*		
W. Caldwell & Son, iron work.....	42 85	
R. Donkin, buoy moorings.....	98 56	
J. Bowser, repairing buoy.....	4 00	
Fraser, Reynolds & Co., supplies.....	886 78	
W M. Smith, plan of buoy.....	25 00	
W. S. Symonds & Co., four iron can buoys.....	1,110 00	
do on account of contract, iron can buoys.....	200 00	
Silas Townsend, second-hand anchors.....	87 52	
J. Connors, do do	149 36	
		8,893 76
Signal Stations.		
J. K. Goold, account for quarter ending 30th June, 1872.....	371 65	
do do 30th Sept., 1872.....	338 74	
do do 31st Dec., 1872.....	291 85	
do do 30th March, 1873.....	308 61	
		1,310 85

RECAPITULATION.

	cts.	$ cts.
Maintenance of lighthouses.....	69,793 35	
do steam fog whistles.....	15,205 84	
do buoys and beacons.....	8,893 76	
do signal stations.....	1,310 85	
	95,203 80	

WM. SMITH,
Deputy of Minister of Marine, etc.

OTTAWA, 30th Sept., 1873.

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STATEMENT of receipts of the Nova Scotia Branch of the Department of Marine and Fisheries on account of casual revenue deposited to credit of the Receiver General during the year ended 30th June, 1873.

Sable Island.	$ cts.	$ cts.
Government schooner *Boys*	205 65	
Sale of cranberries	405 03	
		610 68
Dominion Steamers.		
Services at wreck of steamer *Dacien*, and freight materials, etc., schooner *Boys*		395 00
Light House and Coast Service.		
Sale oil casks, etc.		278 51
Superannuation taxes		860 44
Casual Revenue advance to distressed seamen returned		14 00
		2,158 63

WM. SMITH,
Deputy of Minister of Marine, etc.

OTTAWA, 30th Sept., 1873.

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STATEMENT of Expenditure in connection with Sable and Seal Island Humane Establishments, for the fiscal year ended 30th June, 1883.

	$ cts.	$ cts.
S. P. Dodd, 12 months' salary as superintendent	572 00	
do wages of staff	2,079 89	
J. C. Cumming, tea	37 44	
Burns and Murray, quilts and blankets	166 50	
W. S. Symonds & Co., drills	39 96	
J. Parker, beef	45 00	
Fraser, Reynolds & Co., nails, etc	131 53	
John Mott, soap	10 05	
Crossland and Burpee, oats, flour, etc	297 75	
W. H. Nauffts, provisions	86 02	
Lordly and Stimpson, provisions	431 87	
Peter Judge, water for schooner landing supplies	2 75	
J. D. Nast, pilot bread	22 75	
J. J. Scriver, pilot bread	75 00	
Brown Bros. & Co., seeds	10 00	
Avery Brown & Co., seeds	12 46	
Foster & Morton, oats	51 75	
J. E. Butler, oats	12 96	
H. Cook, pork	166 00	
W. Murray, waggon, cart wheels, etc	186 75	
M. T. Eager, drugs	16 47	
Davis & Co., wharfage on supplies	20 79	
Robertson McLeod, bags	22 05	
H. Mosely, surf boat	122 00	
J. Courtney, expenses on surf boat	1 00	
W. H. Nauffts, potatoes, oats, etc	69 90	
F. Rowan, ointment	6 00	
H. W. Johnson, to purchase lumber from cargo of wrecked schooner *Stella Maris*	270 94	
H. W. Johnson, for the purchase of supplies	720 75	
W. H. Ives & Co., expenses of ponies landed at Pictou	61 67	
		5,750 00

WM. SMITH,
Deputy of Minister of Marine, etc.

DEPARTMENT OF MARINE AND FISHERIES,
24th Sept., 1873.

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APPENDIX No. 9.

REPORT OF THE AGENT FOR BRITISH COLUMBIA OF THE DEPARTMENT OF MARINE AND FISHERIES FOR THE FISCAL YEAR ENDED 30TH JUNE, 1873.

DEPARTMENT OF MARINE AND FISHERIES,
BRITISH COLUMBIA AGENCY, VICTORIA, September 24th, 1873.

SIR,—I have the honor to forward a report of the operations of the Department at this Agency for the Fiscal year ended 30th June last, for the information of the Hon. the Minister of Marine and Fisheries.

This Agency was represented by Mr. B. W. Pearse, the present resident Engineer of Public Works up to the 7th of November 1872, when I received the appointment of Agent of the Department, and assumed the charge thereof, consequently I am still under the same difficulty of reporting upon the operations of the Department antecedent to the date of my appointment, as was expressed in my report of last year, dated 10th December, 1872.

A detailed statement of account, dating from November, 1872, will be found annexed hereto, and an abstract of receipts and expenditure for the first four months, viz., from July 1st, to October 31st, inclusive.

The only expenditure of public money beyond the necessary maintenance for light-houses and coast service prior to the date mentioned above, was the annual replacing of the Fraser River buoys, which service was performed by Captain Clarke, with the steamer *Sir James Douglas*, in the month of August, 1872.

There are fifteen iron buoys, weighing nearly a ton each (furnished by the British Columbia Government ten years ago) for the service of the Sand Heads of Fraser River. Not one of them has been lost, although they frequently drift from their positions. The buoys were scraped and painted, the chains and moorings examined, and made good where necessary, and after surveying the channel, they were replaced in position. Scarcely a season passes without one or more of the buoys getting adrift, which may be accounted for from various causes; during winter, when ice forms in the river, it is carried out by the ebb tide in fields frequently a mile in extent, varying in thickness, and rarely exceeding eight or nine inches. Should the ice, during slack water, freeze to the buoy, it invariably displaces it, either by dragging the moorings or breaking the chain. During the summer season, particularly during the freshets, immense quantities of drift are floated down the river, usually taking the course of the deepest water over the sands, and often fouling the buoys. I have witnessed myself trees of 10 and 12 feet in diameter, and sometimes exceeding 200 feet in length, studded with branches, and with roots large enough to cover the side of a moderate sized house, held by one of the buoys against a stream running five knots, until a change of wind or tide could liberate them. But the most frequent cause of displacement is the continued shifting of the quick sand, of which the channel is composed, caused by the cross currents of the straits of Georgia. In some instances the sand will scour away from the moorings, and in others a deposit will be made over them to such a depth that render weighing almost impossible; under these circumstances it is found more economical to provide new moorings than to attempt to recover those that are so embedded in the sands at the risk of breaking gear and expending time that would more than cover the original value of such moorings that may be necessary to slip.

During the season which this report covers, three buoys have drifted from their moorings on the Sand Heads, two of which have been recovered, and the other recently heard of.

Availing myself of an early opportunity soon after receiving the appointment of agent

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of the Department, I visited and inspected the "Race Rocks" and "Figard" Lighthouses, and also the *Fraser* Light Ship. I was convinced from the result of that inspection that comparatively large sums would be necessary for repairs, to preserve the buildings of the light houses from premature decay. Therefore I had the honor of communicating to you my views, enclosing a report from the light keepers of the respective light houses for the information of the department. In response to my representations, a credit was placed at my disposal for the necessary repairs; and they were proceeded with as soon as the weather would permit at Raw Rocks, under contract to Messrs Kinsman and Styles. The contractors finding all material, including fresh water, which had to be conveyed to the Rocks for mixing mortar. The tower, which is built with large courses of rough free-stone, and the seams of which, admitting the rain water to flow through, caused a dampness that materially interfered with the efficiency of the light, besides that of depreciating the value of the building, were cleaned out to the depth of 1½ inch, and pointed with Portland cement. The tower is colored in alternate black and white bands; a fresh coating of coloring was applied, the black bands with boiling coal tar, the white bands with good lime wash, with a small quantity of coal tar mixed with the lime, sufficient only to make the lime adhere, which gives a slightly yellowish tinge to the color. The dwelling-house, which is two stories, built of rubble-stone, quarried from the rock, was plastered all over on the outside; a new roof, giving a greater pitch, new outside windows, new doors and frames, and other necessary repairs were made to the main buildings.

The bell tower at this station also required alterations. It is square, built of heavy timber, and about fifty feet high, the corner posts inclining inwards, and divided into three compartments above the basement. The floor on which the bell is suspended had one small Venetian louvre on two sides of the square, and one small glass window on the third square, the fourth being blank, which prevented the sound from extending.

Boards 16 in. wide by 1½ in. thick, framed with 12 in. square timber, have been substituted for lower boards, the whole sides of the bell compartment of the tower, rendering the sound of the bell audible some distance from the tower. The store-house, a small outbuilding, was supplied with a new roof.

In addition to the above repairs to the buildings of Race Rocks Light Station, a considerable improvement has been made by cutting through the solid rock a boat channel to a timber slip for landing purposes. The crevice in the rocks is partially formed by nature, which, in its original state, would scarcely admit of a boat obtaining the slightest shelter at any other time than at extreme high water. This circumstance was found to be not only inconvenient, but sometimes positively dangerous, to life and property. By an arrangement made with the keepers, they have worked for extra pay at such time when tide, wind, and weather was favourable at the channel and boat slip. Large quantities of rock, several hundred tons in weight, have been excavated from the channel. A very great improvement has been made, so much so, that a boat can reach the slip about seventy-five feet from the outside coast of the rocks at low water and be hauled out of the surf.

This service would have been excessively costly, if undertaken by any other means, seeing the limited time that could be utilized when tide served. It is probable that some additional labor will be required next season, when the tides recede the greatest during day, which is in the month of May, to make the channel and slip perfect and complete for the purposes required at this light station.

Fisgard Island Light-House at the entrance of Equimault Harbor, the Royal Naval Station of the North Pacific, required extensive repairs to save the buildings; these repairs at the close of the fiscal year were in a forward state. The tower of this light-house, built in 1860, with bricks of a very inferior quality, was painted once only prior to the present repairs. It was decided to cover the tower first with a good coating of Portland cement, and afterwards, when thoroughly dry, with three coats of best white paint. New window frames and windows were supplied to the tower. A new roof to

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the dwelling house, and a new balcony. Other repairs were necessary and contemplated so soon as funds were at my disposal for this purpose.

The Fraser Light has required but little expenditure in maintaining her in position beyond that not provided for at the close of the fiscal year, viz.: a new anchor and chain for moorings, and some internal alterations. The vessel has been painted inside and out, is thoroughly and scrupulously clean, the lantern and lamps in good working order, and shewing a brilliant light, which is highly appreciated in the navigation of the straits of Georgia.

The keepers of the several light stations have been vigilant in their respective duties. I have on several occasions visited and inspected them, and found everything in good order. No complaints from any quarter have been received by me up to the close of the fiscal year. A good and brilliant light is exhibited every night, and the fog bell at Race Rocks, worked by machinery, is kept tolling at intervals of ten seconds whenever necessary. The fog bell at the light ship is also kept tolling whenever fog occurs.

On receipt of your letter of the 13th March last, referring to the buoying of Nanaimo Harbor, I made arrangements with Mr. Fenney to substantially build eight new cedar buoys, nine feet square, and twenty-one inches thick, well bolted and treenailed together, and to be covered with hot tar. These buoys are moored with stone moorings, and $\frac{3}{4}$in. chain, having built on the upper surface a wooden distinguishing frame, painted red or black according to locality.

This description of buoy is found to answer admirably for Nanaimo Harbor, as there is but little tide to contend with. Three of the old buoys were repaired and moored in like manner. This work absorbed all the funds at my disposal for the purpose at the close of the fiscal year.

On viewing Nanaimo Harbor at high tide, it presents a magnificent sheet of water. The rise is sixteen feet at full and change of the moon; at low water, several dangers to navigation are visible, and there are others invisible at the lowest stage.

The rapidly increasing importance of the shipping trade to Nanaimo demands that the harbor should be well and perfectly buoyed, and by the tenor of your dispatch of the above date, I concluded that it was the wish of the Department that I should carry out its views.

I beg leave to mention that the manner in which the harbor is now buoyed, embracing subsequent operations, gives great satisfaction to the agent of one and the proprietors of the other coal company, and to the shipping interests generally.

The buoys in Victoria Harbor were taken up, scraped, and painted, new shackles found, and the chain made good where faulty.

The Dominion steamer *Sir James Douglas* has been running on her usual route on the east coast of Vancouver Island, making regular weekly trips, carrying the mails, passengers, and freight, excepting two weeks when taken off to make some temporary and necessary repairs.

In addition to the usual coast route the steamer has made several cruises on Dominion service--attending on railway survey parties, conveying federal officers to various localities in the Province, and other duties which presented themselves.

I have requested Captain Clarke to furnish me with a statement of the steamers' operations for the fiscal year ended 30th June last, for the information of the Honorable the Minister of Marine and Fisheries, but up to the closing of this report he had been unable to comply. I will, however, forward it immediately it reaches me.

I have also requested the Coal Companies of Nanaimo to forward statistics of shipping, loading and touching at that port, and will forward the same immediately.

On the 1st of January, 1873, the Canadian Steamboat Inspection Act came into force in this Province, and it became my duty to see that the requirements of the Act were faithfully carried out.

Notwithstanding the limited time of the notice that the Act would be in force on and after the 1st January, as stated, no complaints were made; on the contrary, the general feeling was that this or a similar law ought to have been previously in force. But in

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consideration of the great inconvenience if stringent measures were carried out, all steamers were allowed to prosecute their usual trade, the owners of the several boats giving to me a guarantee that the required alterations and supplies should be made and furnished as soon as practicable.

When the Act was made inoperative until 1st June next year, nearly every low-pressure boat in the Province had at great expense complied with the law; six of which had received their certificates, viz.: The Hudson Bay Company's Steamers *Enterprise* and *Otter*, the *Prince Alfred* mail steamer, and the *Isabel*, *Maude*, and *Grappler*.

With reference to the high-pressure boats on the lower dam, a difficulty of a serious character was avoided by temporarily suspending the Act in question. To carry out the Act in its integrity, the steamer *Lillooet*, whose turn it was to run to Yale from New Westminster for the season, could not have complied with the law; therefore, a dead lock of the trade in the busiest time of the year must have taken place for a few weeks, until the other boat, the *Onward*, which was in a forward state for inspection, was prepared to meet the requirements of the Act.

Doubtless all steamers in the Province after the extended time given to them will be prepared for inspection when the Act again comes into force.

Before concluding, permit me to state that I am cognizant that my personal intimate knowledge of all the localities and their various requirements in this Province, may lead me unintentionally in some cases to render my remarks obscure to those at a distance who are not acquainted with the locality, and I would venture respectfully to suggest that the Hon. The Minister of Marine and Fisheries, or one of his officers, should visit this Province for the purpose of inspecting various matters and subjects, so that a reference of my letters and reports thereafter might render them more clear, and the value of my suggestions more easily apparent to the Department at Head Quarters.

I have, &c.,

JAMES COOPER,

Agent.

WILLIAM SMITH, ESQ.,
Deputy of Minister of Marine and Fisheries,
OTTAWA.

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STATEMENT of Expenditure on account of Maintenance of Lights, British Columbia, for the fiscal year ended 30th June, 1873.

	$ cts.	$ cts.
Fisgard Light.		
W. H. Bevis, salary, self and assistant, from 1st August, 1872, to 30th June, 1873	696 63	
J. W. Pearse, stationery	3 00	
J. Shel, bedstead	12 50	
E. B. Marvin, ship chandlery	31 50	
A. W. Wilson, grate guttering, etc	27 50	
Langley & Co., oil	39 00	
P. J. Leich, soap	4 50	
P. Christopher, cartage	1 00	
A. McDowell, repairs	12 50	
H. E. Welby, freight	4 00	
Hudson Bay Co., black lead	2 25	
J. Sechel, matting, etc	38 75	
W. C. Clark, labor	5 00	
Denscum, Diggles & Co., coal	52 25	
J. T. Howard, sundries	8 50	
R. Brodrick & Co., coal	10 00	
Langley & Co., supplies	116 62	
P. McQuade do	15 75	
M. Muir, do	3 12	
W. H. Bevis, labor, etc	97 00	
W. A. Franklin, sundries	1 75	
E. Harrison, glass	2 75	
Turney & Co., dry goods	4 50	
Hibband & Co., stationery	6 25	
T. Storey, repairs	152 00	
A. & W. Wilson, repairs	51 50	
Kinsman & and Shyles, repairs	320 00	
J. W. Pearse, sundry disbursements	368 17	
		2,088 29
Race Rocks.		
Thos. Argyle, salary, self and 3 assistants, 1st August, 1872, to 30th June, 1873	1,389 58	
A. Rickman, provisions, etc	865 79	
G. Cook, labor	20 12	
Wellington Coal Co., coal	44 00	
J. Cooper, labor excavating	80 50	
Kinsman and Styles, on acc. contract repairs	600 00	
H. O. Tudeman, plans, etc	40 00	
P. McQuade, lime, cement, etc	115 61	
H. E. Beckwith, boat hire, freight	12 00	
W. Mun, oil	6 25	
Dinney & Spencer, dry goods	7 50	
D. W. Higgins, advertising	8 00	
J. Shell, sundries	39 50	
J. N. Hibbin & Co., stationery	6 88	
V. L. Mining Co., coal	55 00	
J. Spratt, machinery	25 25	
Langley & Co., chemicals	28 62	
Capt. Cooper, sundry petty expenses	39 00	
J. W. Pearse, sundry disbursements	392 24	
Hudson Bay Co., Gunnies	12 50	
		3,788 34
Fraser River Light Ship.		
R. Hicks, salary as master from 1st June, 1872, to 20th Feb., 1873, at $100 per month	871 40	
James Jolly, salary as master from 21st Feb. to 30th June, 1873	428 60	
Capt. Cooper, wages of two assistants	1,040 00	
Hibben & Co, stationery	2 87	
Geo. Hardesty, freight	49 00	
A. Hickman & Co., provisions	563 91	
Langley & Co., supplies	10 62	
Carried forward		

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STATEMENT of Expenditure on account of Maintenance of Lights, British Columbia, for the fiscal year ended 30th June, 1873.

	$ cts.	$ cts.
Brought forward.....	.....	.....
Fraser River Light Ship—Continued.		
Hudson Bay Co., dry goods	13 50	
E. B. Marves, oil cloth, etc.....	56 90	
A. & W. Wilson, stove, etc	68 50	
Robertson and Fan, iron	4 00	
Wells, Fargo & Co., wicks	20 50	
M. Mun, oil.....	3 12	
P. McQuade, paint, varnish, etc.....	152 65	
Dunscomb, Diggle & Co., coal.....	55 00	
N. Shakespeare, advertising	1 25	
Janion, Rhodes & Co., filter	8 50	
G. Lorkerly, grapnel.....	4 37	
J. Cooper, sundry petty expenses	13 75	
J. W. Pearse, sundry disbursements	773 86	
		4,142 30
BUOYS AND BEACONS.		
Fraser River.		
S. Murray, rope, repairs, etc	138 50	
J. W. Pearce, wages of men engaged in buoy service.....	265 00	
W. Mun, wooden buoys.....	20 00	
P. McQuade, chains, etc	398 63	
J. Spratt, iron nutts, etc	37 87	
G. H. Booth, provisions for men	81 50	
Roberts & Far, links, swivels, etc.....	114 75	
J. W. Dawes, sinkers.....	48 00	
A. Georgeson, remuneration for finding and securing.....	75 00	
Capt. Clarke, securing buoys	25 00	
Capt. Cooper, do	75 00	
do cartage, freight, etc	41 00	
J. W. Pearce, sundry disbursements	128 75	
		1,449 00
Nanaimo Harbor.		
J. Sabiston, replacing buoys.....	167 00	
J. Cooper, travelling expenses.....	24 50	
G. W. Booth, sundries	3 00	
A. Tenny, new buoys, chains, etc.....	925 00	
		1,119 50
Victoria Harbor.		
H. Glyde, painting, etc	.....	120 00
GENERAL ACCOUNT.		
Standard office, printing	18 00	
Telegraph Co., messages	4 50	
Hudson Bay Co., freight	52 75	
Long & Co., advertising	6 00	
D. W. Higgins, do	15 00	
Mansell & Holroyd, crockeryware	13 25	
A. & W. Wilson, repairing lamps	19 75	
Vancouver Coal Co., coal	24 00	
J. Haws & Co., oil.....	346 41	
		499 66
		13,207 09

WM. SMITH,
Deputy of Minister of Marine, etc.

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REPORT ON SERVICES RENDERED BY DOMINION STEAMER *SIR JAMES DOUGLAS*, FOR THE FISCAL YEAR ENDED 30TH JUNE 1873.

DOMINION STEAMER, *Sir James Douglas*,
PROVINCE OF BRITISH COLUMBIA,
29th September, 1873.

James Cooper, Esq.,
Agent, Department Marine aud Fisheries.

SIR,—In obedience to your request, I have the honor to report to you for the information of the Hon. the Minister of Marine and Fisheries, a list of services performed by the vessel under my command during the fiscal year ended 30th June, 1873.

The steamer has been principally employed on the East Coast of Vancouver Island, carrying H.M. mails, passengers, and freight, and has made forty-six weekly trips between Victoria and Nanaimo, calling at the following intermediate places, viz.: Cowichan, Burgoyne Bay, Admiral Island, Maple Bay, and Chemainus.

Twenty six fortnightly trips between Victoria and Camox, and twelve monthy trips between Victoria and Sooke.

The following duties other than mail service have been performed :—

One trip to the assistance of the Hudson Bay Company's barque *Prince of Wales*, reported on shore on the north-west coast of Vancouver Island. After having left port on this service, the barque was met under sail bound to Victoria, the report of her being on shore having no foundation; consequently the steamer's services were not required

The Race Rocks Lighthouse, has been visited eight times during the year.

Fisgard Island once for the purpose of coaling.

The lightship once with coal.

From 2nd to 12th of August engaged in surveying Sand Heads of Fraser River, examining moorings, painting and changing buoys, and re-marking channel. The Lightships' anchor was also sighted, position changed, and re-anchored.

Two trips have been made to recover buoys drifted from their moorings on Sand Heads of Fraser River, once to Waldron Island, and once to Saturna.

From 5th to 11th October the steamer was placed at the disposal of Sandford Fleming, Esquire, Engineer-in-Chief C.P.R.R.S., and conveyed him and suite from Burrard Inlet to Bute Inlet, from thence to Menzies Bay, by way of the Arran Rapids, Nodales Channel, and Seymour Narrows, from Menzies Bay to Nanaimo, from thence to Victoria and Esquimalt, and finally from Victoria to Barclay Sound, and Alberni and back.

Two trips from Camox to Stewart Island, attending upon Mr. Gamsby's party (railway survey).

Two trips were also made from Nanaimo to Seymour Narrows, attending upon Mr. Michaud's party, (railway survey).

One trip was made from Victoria to Saanick and back, with Marcus Smith, Esquire.

One trip to Howe's Sound, with Mr. Gamsby's party.

The *Sir James Douglas* has steamed about 15,000 miles, consumed about 940 tons of coal for steaming purposes, and carried 1,200 passengers, exclusive of railway surveying parties.

The vessel was built at Victoria in 1864, and launched January 1st, 1865. She has never been caulked on the outside since, consequently the sheathing is nearly worn off. About five years ago the vessel struck a rock, and the part injured was never thoroughly repaired.

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The boiler is a most expensive one on fuel, burning 10 and 11 cwt. per hour. The tubes are very short, consequently a great portion of the heat escapes through the chimneys without rendering any service. It also requires most expensive patching every six weeks or two months.

The engines require over-hauling, and new brasses supplied.

The decks are very much worn, and must shortly be renewed.

I have, etc.,

(Signed) W. R. CLARKE,

Master.

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APPENDIX NO. 10.

STATEMENT of Expenditure on account of construction of Lights, Light-Ships and Steam Fog Whistles, for the fiscal year ended 30th June, 1873.

NOVA SCOTIA.	$ cts.	$ cts.
Digby Fog Whistle.		
T. Daley, balance of contract and additions to engine house, &c	440 00	
Wm. M. Smith, to provide water supply	483 32	
Savary and Sheeve, preparing deed	7 50	
J. Mitchell, sundry disbursements	120 00	
		1,050 82
St. Paul's Island Fog Whistle.		
J. Bowser, balance of contract for engine house	2,247 00	
do Additional work	75 00	
J. & T McAvity, outfit	835 24	
Wm. Muirhead, lumber, &c	189 65	
W. Watt, provisions for men putting whistle in operation	242 85	
James Mitchell, wages of workmen, do	895 80	
		4,485 54
Briar Island Fog Whistle.		
T. Daley, balance for erecting engine house	440 00	
Geo. Fleming & Sons, whistle, &c., and steampump	2,335 00	
W. M. Smith, outfit, freight, &c	1,132 74	
do on account of water supply	500 00	
		4,407 74
Cranberry Island Fog Whistle.		
J. S. Carvill, balance of contract		1,000 00
Negro Island Light House.		
D. J. Mullin, balance of contract	548 25	
W. S. Symonds, expenses	7 75	
		556 00
Chebucto Head Light House.		
J. Bowser, balance of contract	350 00	
E. Chanteloup, revolving apparatus	1,414 59	
W. S. Symonds, sundries	21 10	
		1,785 69
Liscomb Light House.		
D. S. Ferguson, balance of contract	589 75	
do lumber, &c	82 70	
W. S. Symonds, putting up lantern	128 26	
		800 71
Jerseyman's Island Light House.		
F. S. Cunningham, balance of contract	600 00	
do lumber	7 50	
T. Walsh & Co., Glass	50 90	
		658 40
Carried forward		

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STATEMENT of Expenditure on account of construction of Lights, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
Mahone Bay Light House.		
Hoppe & Brown, balance of contract.....	446 84	
C. Garth & Co., ventilators.....	26 50	
		473 84
Country Harbour Light House.		
J. McDonald, balance of contract.....	345 00	
C. Garth & Co., work on lantern.....	180 70	
W. S. Symonds, sundries.....	4 00	
J. Stairs, Freight.....	20 00	
		549 70
Shelburn Harbour Light House.		
Geo. Deschamps, on account of contract.....	.....	358 21
Margaret's Bay Light House.		
J. G. Sinclair, on account of contract.....	.....	621 54
Port Mouton Light House.		
G. S. Parker, on account of contract.....	500 00	
C. Garth & Co., repairing lantern.....	26 50	
J. H. Kendrick, freight.....	2 94	
		529 44
Cheticamp Light House.		
A. P McNeil, balance of contract.....	100 00	
E. Chanteleup, revolving apparatus, &c.....	1,085 04	
		1,185 04
Protection to Parrsboro Light House.		
A. McNab, contract for protection of light house.....	.....	2,000 00
Sydney Harbour Light House.		
E. Albro, balance of contract.....	.....	99 72
Arichat West Light House.		
W. Tory, on account of contract.....	.....	300 00
Coffin's Island Light House.		
W. Tory, on account of contract.....	.....	100 00
McNeill's Point Light House.		
W. Tory, on account of contract.....	.....	100 00
Mullin's Point Light House.		
McLeod & Co., on account of contract.....	300 00	
Baldwin & Co., stone, etc.....	43 30	
		343 50
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of construction of Lights, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward...		
Halifax Harbor Light Ship.		
Richardson, Duck & Co., contract for iron light-ship, £6,100 stg	....	29,686 66
Sable Island Light Houses and Steam Fog Whistles.		
P. Carroll, on account of contract for light houses and engine houses	17,936 95	
J. Haws & Co., plate glass	373 29	
Crossland & Burpee, cement & lime.....	2,076 00	
E. Chanteloup, lantern, etc.....	4,837 50	
J. Kerr, expense superintending	374 86	
W. S. Symonds & Co., hardware.....	72 12	
A. Robinson, iron bolts, etc	46 80	
H. W. Johnston, freight, labor, on cement, lime, etc.....	385 55	
J. W. Fraser, on account of contract for whistles and apparatus	3,505 00	
J. & T. McAvity, outfits.....	839 09	
J. Hunter, copper pipe.....	264 07	
McDonald & Co., brass pump	78 20	
J. Haws, & Co., dioptric light.....	2,032 00	
J. Mitchell, sundry disbursements	115 00	
		32,936 43
Light Keepers' Dwellings, Sable Island.		
P. Carroll, on account of contract.....	5,007 75	
		5,007 75
Canso Light House.		
F. S. Cunningham, balance of contract.....	....	362 90
GENERAL ACCOUNT.		
W. S. Symonds & Co., repairing lanterns.....	115 75	
W. M. Smith, plans and specifications	72 00	
J. A. Black, advertising	13 75	
W. Barbour, sundry disbursements.	20 00	
J. Bowser, work on lantern, at Main-à-Dieu in 1871	150 00	
J. Haws & Co, plate glass.....	412 06	
		783 56
ABOVE MONTREAL.		90,181 79
New Light House, Lake Superior.		
Chas. Perry, contract	4,900 00	
E. Chanteloup, lamps, etc.....	1,014 35	
		5,914 35
L'Orignal & McTavish Point Beacons.		
Joseph White, sundry additions to buildings...	.....	20 00
Middle Island Light House.		
R. T. Sutton, contract	1,275 00	
do additional work.....	100 00	
C. Garth & Co., lanterns, etc.....	373 00	
E. Chanteloup, lamps, etc	476 35	
		2,224 35
Lonely Island Light House.		
L. Baker, balance of contract.....	.....	106 97
Carried forward.....	.....	... .

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STATEMENT of Expenditure on account of construction of Lights, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....		
Batchewana Light House.		
L. Baker, on account of contract.....	2,000 00	
L. N. Benjamin, drawing plans, etc.....	30 00	
		2,030 00
Point aux Anglai Light House.		
J. White, on account, contract	1,200 00	
S. H. Fowler, building pier, and superintending construction.....	196 55	
		1,396 55
Upper Ottawa Lights.		
J. White, on account contract	500 00	
S. H. Fowler, inspecting	38 46	
		538 46
Owen Sound.		
G. Collins, locating site	24 10	
E. Chanteloup, lamps reflectors.....	179 50	
		203 60
Hamilton Island.		
R. Cameron, on account, contract	600 00	
S. H. Fowler, inspecting.....	10 40	
		610 40
Glengarry Point.		
R. Cameron, on account contract	775 00	
S. H. Fowler, inspecting.....	10 40	
		785 40
Windmill Point.		
E. Chanteloup, lantern, etc.....	1,308 34	
Bronson & Paton, iron clad paint	10 03	
T. W. Currier, lumber	112 25	
J. Rochester, do	39 50	
S. H. Fowler, wages of workmen and materials	1,041 15	
		2,511 27
GENERAL ACCOUNT.		
E. A. & G. R. Meneelly, fog bell, Toronto	441 89	
do do do Nine Mile Point	448 20	
G. M. Stephens & Co., striking apparatus for fog bell, Toronto.....	323 94	
do do do Nine Mile Point	324 85	
do for putting do in operation.....	45 26	
W. J. Meneilly, sundry expenses in connection with fog bells	40 89	
Jos. White, erecting fog bell tower at Toronto.....	473 50	
W. R. Billings, wages as draughtsman	120 28	
W. L. Holland, inspecting Lights.....	100 00	
"Citizen," advertising	33 60	
"Toronto Express," do	74 00	
"Ottawa Daily News." do	10 56	
do "Free Press," do	36 50	
"Kingston Daily News," do	16 56	
"Freeman," do	25 50	
"Leader," do	45 00	
"Patriot," do	60 00	
R. Herring, do	15 00	
"Weekly Canadian," do	22 50	
		2,658 03
Carried forward.....	.....	18,999 38

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STATEMENT of Expenditure on account of construction of Lights, etc.,—*Continued*

	$ cts.	$ cts.
Brought forward.....		
NEW BRUNSWICK.		
Alnwick Light House.		
John Young, contract.....	773 50	
do oil shed.....	120 00	
C. Garth, ventilator.....	26 50	
E. Chanteloup, balance for lantern.....	24 52	
		944 52
Shippegan.		
J. Young, contract.....	773 50	
do oil shed.....	120 00	
C. Garth, ventilator.....	26 50	
E. Chanteloup, balance for lantern.....	200 75	
		1,120 75
Fox Island Beacons.		
R. R. Call, contract.....	725 00	
S. Thomson, drawing agreement.....	8 00	
		733 00
Cassies Point Light House.		
Adam Tait, balance contract.....	783 88	
E. Chanteloup, lantern, etc.....	1,105 99	
		1,889 87
Miscou Fog Whistle.		
Doolan & Cassidy, on account of contract for building.....	1,000 00	
J. W. Fraser, do whistle and apparatus.....	1,000 00	
W. H. Tuck, drawing contract.....	40 00	
		2,040 00
Cape Spencer Light House,		
Clark & Stackhouse, contract.....	3,700 00	
do making road.....	372 80	
E. Chanteloup, lantern, etc., etc.....	2,054 09	
J. Haws & Co., plate glass.....	193 53	
J. Carney, purchase site for light house.....	200 00	
W. H. Tuck, drawing deed.....	36 00	
do do contract.....	20 00	
W. C. Druay, registering deed.....	3 60	
J. Allison, surveying land.....	15 00	
J. H. Harding, freight, cartage, etc.....	128 20	
		6,723 22
Miramichi Light Ship.		
J. H. Harding, exp. of crew bring. vessel to Miramichi, wages of watchman, etc	256 50	
R. R. Call, supplies.....	85 01	
M. M. Sargent, oil.....	2 40	
		343 91
Tabusintac Light House.		
J. Desmond, contract.....	700 00	
W. H. Tuck, drawing contract.....	20 00	
		720 00
Neguac Light House.		
J. Desmond, contract.....	700 00	
Carried forward.....		

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STATEMENT of Expenditure on account of construction of Lights, etc.,—*Continued*

	$ cts.	$ cts.
Brought forward.....	.....	.....
Neguac Light House—Continued.		
W. H. Tuck, drawing contract	20 00	720 00
Grand Lake Light House.		
E. Chanteloup, lamps, etc.....	295 05	
W. H. Tuck, drawing contract	20 00	
J Haws & Co., plate glass.....	83 36	
J. H. Harding, freight	5 11	
		403 52
Machias Seal Island Fog Whistle.		
W. H. Tuck, drawing contract.....	.....	40 00
Sheldrake Island Beacons.		
J. Carter, contract	.....	500 00
GENERAL ACCOUNT.		
W. M. Smith, plans, etc	194 00	
W. C. Milners, advertising	26 17	
M. A. Tracey, do	16 80	
C. G. Berryman, chain, etc.....	257 30	
J. H. Harding, sundry expenses.....	18 00	
		512 27
		16,691 06
BETWEEN QUEBEC AND MONTREAL.		
Lotbinière Lights.		
J. Sheridan, amount of contract	.....	1,300 00
Richelieu River Lights.		
J. Sheridan, contract	.....	3,785 00
GENERAL ACCOUNT.		
W. C. White, repairs to steamer Richelieu.....	1,112 00	
Sincennes & McNaughton, use of steamer while *Richelieu* was repairing.....	484 00	
Lyman, Clare & Co., oils, etc.....	18 91	
		1,614 91
LESS,		
Transferred to maintenance of lights between Quebec and Montreal.....	199 91	
		1,415 00
		6,500 00
BELOW QUEBEC.		
Manicouagan Fog Whistle.		
J. W. Fraser, balance of contract.....	2,190 47	
W. M Smith, tracings	60 00	
		2,250 47
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of construction of Lights, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
Cape Despair Light House.		
P. Carroll, on account of contract	2,000 60	
E. Chanteloup, lantern, revolving apparatus, etc, etc.....	2,223 99	
Richelieu Company, freight	34 00	
		4,257 99
Lark Islet Light House.		
C. E. Forgues, in full for contract, etc.....	472 70	
E. Chanteloup, lamps, etc.....	200 50	
P. Tobin, sundries.....	30 75	
S. Bedard, stove add pipe	18 35	
		722 30
Point Prairie.		
E. Chanteloup, lamps, etc	.....	200 50
Cape Bay Fog Whistle.		
J. Desmond, on account of contract for buildings.....	1,600 00	
J. W. Fraser, do do for whistle	2,000 00	
		3,600 00
Magdalen Island Fog Whistle.		
J. W. Fraser, on account of contract for whistle.....	.....	2,000 00
Matane Light House.		
S. Cimon, on account of contract	1,000 00	
E. Chanteloup, lantern, etc	1,256 39	
		2,256 39
Port Neuf Light, (Lower).		
E. Chanteloup, lantern, etc.....	.....	1,325 09
South Point Anticosti Fog Whistle and Engine House.		
J. S. Carvell, balance of contract.....	.....	800 00
Gaspé Point Light House.		
Doolan & Cassidy, on account of contract.....	1,000 00	
E. Chanteloup, lamps, etc.....	413 25	
J. Mitchell, locating site	15 00	
		1,428 25
Magdalen Island Light House.		
J. Carter, on account of contract	2,700 00	
E. Chanteloup, lantern, apparatus, etc	1,182 00	
J. Mitchell, locating site	30 00	
S. J. Tweedie, sundries.....	9 33	
		3,921 33
Egg Island Light House.		
L. Baker, balance of contract and additional work.....	.....	1,084 50
Carried forward.....	.....	.....

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STATEMENT of Expenditure on account of construction of Lights, etc.,—*Continued.*

	$ cts.	$ cts.
Brought forward.....	.....	.....
Gaspé Fog Whistle.		
Doolan & Cassidy, on account of contract for building	2,000 00	
J. W. Fraser, on account of contract, whistle and apparatus..	2,000 00	
J. Mitchell, locating site.....	15 00	
		4,015 00
GENERAL ACCOUNT.		
J. Haws & Co., plate glass, etc	3,588 65	
B. Billings, services as draughtsman	27 50	
W. M. Smith, plans, etc	57 50	
Middleton & Dawson, stationery.....	10 56	
J. Thompson, drawing contracts.....	40 00	
D. Davidson, paint, etc	99 04	
A. Villars, resilvering reflectors.....	77 00	
G. Serfert, telescopes, etc	73 50	
J. Duffit, lumber	22 50	
J. Marmen, cartage.....	31 20	
L Gagné, sundries	12 33	
Sherbrooke News, advertising.....	9 24	
Union des Cantons de l'Est, do	12 00	
Le Canadien, do	14 04	
Montreal Daily News, do	43 00	
Quebec Morning Chronicle, do	66 24	
Irish Citizen, do	17 42	
Budget, do	20 80	
Gazette des Campagnes, do	8 57	
St. Hyacinth Courier, do	13 68	
Sherbrooke Gazette, do	12 00	
Daily Mercury, do	15 60	
Quebec Jounal, do	16 00	
La Minerve, do	33 44	
Negociant Canadien, do	30 09	
Poitras & Co., do	9 36	
P. G. St. Pierre, do	20 80	
T. F. Nellis, do	16 50	
S. Carrell, printing	37 50	
L. H. Huot, do	24 00	
P. G. Huot, postages.....	129 66	
Grand Trunk Railway, freight	17 82	
James Gibb, do	56 41	
Richelieu Company, do	31 10	
Montreal Telegraph Company, telegrams	79 22	
J. U. Gregory, expenses making life preservers	67 50	
H. P. Plamondon, customs entries....	10 00	
J. Eden, sundry disbursements	20 00	
L. A. Blanchett, do	70 37	
		4,942 05
		32,803 87
	In all..	165,176 10

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, September, 1873.

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APPENDIX No. 11.

STATEMENT of Expenditure on account of Steamboat Inspection, for the fiscal year ended 30th June, 1873.

	$ cts.	$ cts.
Samuel Risley, 12 months' salary as Chairman of Board of Inspection	1,400 00	
W. J. Meneilly, 12 months' salary, inspector	1,000 00	
W. M. Smith, 12 months' salary, inspector	1,000 00	
J. Taylor, 15 months' salary, from 1st March 1872, to 30th June 1873	1,000 00	
X. Befort, do do do	1,000 00	
J. Samson, do do do	1,000 00	
		6,400 00
Samuel Risley, travelling and incidental expenses in connection with the Board of Examiners		1,564 89
W. J. Meneilly, travelling and incidental expenses		793 47
Wm. M. Smith, do do		642 75
J. Taylor, do do		381 02
X. Befort, do do		397 03
J. Samson, do do		350 90
Samuel Risley, fitting up office, stationery, etc., etc		196 98
X. Befort, allowance as inspector for the Montreal Division, to 31st December, 1872		200 00
J. Spratt, repairs to test pumps		81 20
J. Cooper, sundry expenses, British Columbia		74 00
J. Patterson, law costs *in re* steamers *Queen* and *Bella Taylor*		16 00
Department of Marine and Fisheries, to pay for testing apparatus, and instruments ordered		2,167 76
		13,266 00

WM. SMITH
Deputy of Minister of Marine, etc.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, September, 1873.

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APPENDIX No. 12.

REPORT OF CHAIRMAN OF BOARD OF EXAMINERS OF MASTERS AND MATES, FOR THE FISCAL YEAR ENDED 30TH JUNE, 1873.

HALIFAX, Nova Scotia,
13th October, 1873.

Sir,—I herewith submit for your information, the Annual Report of the Board o Examiners of Masters and Mates, for the Fiscal year ended 30th June last.

The Board sat at the Ports of Halifax, N.S., St. John, N.B., and Quebec, as follows :—

At Halifax on 1st and 2nd July, 1872—

Masters who obtained certificates	6
Mates do do	*Nil*

One candidate for a Master's Certificate having failed.

At Quebec on 6th and 8th July—

Masters who obtained certificates	3
Mate do do	1

At St John, N.B., on 12th and 13th July—

Masters who obtained certificates	11
Mates do do	2

Three candidates for Masters' Certificates, and one candidate for a Mate's Certificate having failed.

At Halifax, N.S., on 17th and 18th July—

Masters who obtained certificates	7
Mate do do	*Nil*

Three candidates for Masters' Certificates having failed.

At St. John, N.B., on 26th and 27th July—

Masters who obtained certificates	9
Mate do do	1

Two candidates for Masters' Certificates having failed.

At Halifax, N.S., on 13th and 14th August—

Masters who obtained certificates	8
Mate do do	*Nil*

At Quebec on 19th and 20th August—

Master who obtained a certificate	1
Mates do do	3

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At St. John, N.B., on 24th and 26th August—

Masters who obtained certificates				14
Mates	do	do		2

Five candidates for Masters' Certificates, and one for a Mate's having failed.

At Halifax, N.S., on 7th and 9th September—

Masters who obtained certificates				3
Mates	do	do		2

One candidate for a Master's Certificate, and one for a Mate's having failed.

At St. John, N.B., on 13th and 14th September—

Masters who obtained certificates				8
Mates	do	do		2

Five candidates for Masters' Certificates having failed.

At Quebec, on 24th and 25th September—

Masters who obtained certificates				4
Mates	do	do		*Nil*

One candidate for a Master's Certificate having failed.

At Halifax, N.S., on 30th September and 1st October—

Masters who obtained certificates				10
Mates	do	do		2

Two candidates for Masters' Certificates, having failed.

At St. John, N.B., on 27th and 28th September—

Masters who obtained certificates				10
Mates	do	do		*Nil*

Seven candidates for Masters' Certificates having failed.

At St. John, N.B., on 19th and 21st October—

Masters who obtained certificates				8
Mate	do	do		1

Eight candidates for Masters' Certificates having failed.

At Halifax, N.S., on 28th and 29th October—

Masters who obtained certificates				2
Mate	do	do		*Nil*

Seven candidates for Masters' Certificates having failed.

At Quebec, on 11th and 12th November—

Masters who obtained certificates				2
Mate	do	do		1

At St. John, N.B., on 14th and 15th November—

Masters who obtained certificates				8
Mate	do	do		1

One candidate for Master's Certificate having failed.

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At Halifax, N.S., on 19th and 20th November—

Masters who obtained certificates	6
Mate do do	*Nil*

Five candidates for Masters' Certificates having failed.

At St. John, N.B., on 3rd and 4th December—

Masters who obtained certificates	3
Mates do do	2

Five candidates for Masters' Certificates, and one for a Mate's having failed.

At Halifax, N.S., on 6th and 7th December—

Master who obtained certificate	*Nil*
Mate do do	*Nil*

Four candidates for Masters' Certificate having failed.

At St. John, N.B., on 19th and 20th December—

Masters who obtained certificates	3
Mate do do	1

Two candidates for Masters' Certificates having failed.

At Halifax, on 23rd and 24th December—

Masters who obtained certificates	4
Mate do do	*Nil*

At St. John, N.B., on 13th and 14th January, 1873—

Masters who obtained certificates	2
Mate do do	*Nil*

Three candidates for Masters' Certificate, and one for a Mate's having failed.

At Halifax, N.S., on 20th and 21st January—

Masters who obtained certificates	2
Mate do do	*Nil*

Two candidates for Masters' Certificates, and one for a Mate's having failed.

At St. John, N.B., on 30th and 31st January—

Master who obtained a certificate	1
Mate do do	1

Three candidates for Masters' Certificates, and one for a Mate's having failed.

At Halifax, N.S., on 10th and 11th February—

Masters who obtained certificates	4
Mate do do	*Nil*

Four candidates for Masters' Certificates, and one for a Mate's having failed.

At St. John, N.B., on 20th and 21st February—

Masters who obtained certificates	11
Mate do do	1

Three candidates for Masters' Certificates, and two for Mate's having failed.

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At Halifax, N.S., on 26th and 27th February—

Masters who obtained certificates	8
Mate do do	1

Three candidates for Masters' certificates having failed.

At Quebec, on 17th and 18th March—

Masters who obtained certificates	4
Mate do do	*Nil*

One candidate for a Masters' Certificate having failed.

At St. John, N.B., on 3rd and 4th April—

Masters who obtained certificates	8
Mates do do	3

Eleven candidates for Masters' Certificates, and one for a Mate's having failed.

At Halifax, N.S., on 8th and 9th April—

Masters who obtained certificates	6
Mate do do	1

Two candidates for Masters' Certificates, and one for a Mate's having failed.

At St. John, N.B., on 19th and 21st April—

Masters who obtained certificates	11
Mates do do	2

Three candidates for Masters' Certificates having failed.

At Halifax, N.S., on 24th April—

Masters who obtained certificates	2
Mate do do	1

At St. John, N.B., on 8th and 9th May—

Masters who obtained certificates	3
Mate do do	*Nil*

Four candidates for Masters' Certificates having failed.

At Halifax, N.S., on 20th and 21st May—

Masters who obtained certificates	3
Mate do do	*Nil*

At St. John, N.B., on 26th and 27th May—

Masters who obtained certificates	3
Mate do do	1

Five candidates for Masters' Certificates having failed.

At St. John, N.B., on 16th and 17th June—

Masters who obtained certificates	6
Mates do do	2

Four candidates for Masters' Certificates, and one for a Mate's having failed.

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At Halifax, N.S., on 20th and 21st June—

Masters who obtained certificates	3
Mate do do	1

One candidate for a Master's Certificate having failed.

Thus, two hundred and seven (207) certificates of competency for the grade of Master, and thirty-five (35) for that of Mate, were granted during the fiscal year.

Three hundred and seventy-two (372) certificates of service as Master, and one hundred and twenty-two (122) as Mate, were also issued during the year.

I have the honor to be, Sir,

Your most obedient servant,

P. A. SCOTT.
Chairman.

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LIST OF CERTIFICATES OF COMPETENCY AND SERVICE GRANTED TO MASTERS AND MATES BY THE DEPARTMENT OF MARINE AND FISHERIES, FOR THE SIX MONTHS ENDED 30TH JUNE, 1873.

COMPETENCY.

Number of Certificate	Date 1873.	Name.	Grade.	Address.	Where Examination was passed.	Fee.
						$
282	Jany. 23	Richard Nutting Wadman	Master.	Five Islands, Colchester, Co., N.S	St. John, N. B	10
283	do 23	Silas William Crosby	do	Yarmouth, N.S	do	10
284	do 28	Stillman McNutt	do	Maitland, N.S	Halifax, N.S	10
285	do 28	Thomas Hogg Powell	do	Barrington, N.S	do	10
286	Feby. 10	William Edmund Wyman	do	Freeport, Digby Co., N.S	St. John, N.B	10
287	do 10	Howard Israel Davis	Mate.	Hillsboro', Albert Co., N.B	do	5
288	do 20	John William Wyman	Master.	Bridgewater, Lunenburg Co., N.S	Halifax, N.S	10
289	do 20	Francis Charles Forrest	do	9 Cunard's Wharf, Halifax, N.S	do	10
290	do 20	George Edward Brooks	do	Burlington, Hants Co., N.S	do	10
291	do 20	William Henry Manson	do	Hantsport, N.S	do	10
292	Mar. 8	George Flintiff Smith	do	Queen's Square, South St. John, N.B	St. John, N.B	10
293	do 8	William Wallace McLeod	do	St. George, Charlotte Co., N.B	do	10
294	do 8	James Henry Crossley	do	River Herbert, Cumberland Co., N.S	do	10
295	do 8	James William Tobin	do	Chatham, Miramichi, N.B.	do	10
296	do 8	Samuel Reynard	do	St. John, N.B	do	10
297	do 8	Isaiah Bloomfield Morris	do	Horborvill, King's Co., N.S	do	10
298	do 8	Daniel Mitchell	do	Campobello, N.B	do	10
299	do 8	Warren Lewis	do	St. John, N.B	do	10
300	do 8	George Anderson Morris	do	Welton, Hants Co., N.S	do	10
301	do 8	John Smith Brooks	Mate.	Weymouth, Digby. Co., N.S	do	5
302	do 8	John Wesley McLaughlin	Master.	Annapolis, N.S	do	10
303	do 8	Thos. DeWaldon Howard	do	Wentworth St., St. John, N.B	do	10
304	do 17	John Stewart	do	Liverpool, N.S	Halifax, N.S	10
305	do 17	William Long	do	Liverpool, N.S	do	10
306	do 17	Charles Muggah Marvin	Mate.	55 Queen St., Halifax, N.S	do	5
307	do 17	Robert Douglas Buckler	Master.	Tatamagouche, Colchester Co., N.S	do	10
308	do 17	Francis Edwin Roberts	do	Tatamagouche, N.S	do	10
309	do 17	Joseph Purdy	do	60 Lockman St., Halifax, N.S	do	10
310	do 17	William Watt	do	9 North George St., Halifax, N.S	do	10
311	do 17	William Henry Frelick	do	Liverpool, N.S	do	10
312	do 17	Charles Linum Starrat	do	Liverpool, N.S	do	10
313	do 21	Charles Koenig	do	L'Islet, Quebec	Quebec.	10
314	do 21	William Caron	do	L'Islet, Quebec	do	10
315	do 21	Elzear Grenier	do	St. Roch's, Quebec	do	10
316	do 21	Pierre Gagné	do	Cape St. Ignace, Quebec	do	10
317	do 19	Joseph Frenett	do	St. John, N.B	St. John, N.B	10
318	do 19	Robert Kerkland Black	do	2 Exmouth St., St. John, N.B	do	10
319	do 19	William Finn	do	144 Princess St, St. John, N.B	do	10
320	do 19	William Edward Buck	do	Dorchester Co., Westmorland, N.B	do	10
321	do 19	John Thomas Brown	do	Moncton Co., Westmorland, N.B	do	10

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LIST of Certificates of Competency and Service granted to Masters and Mates, etc.,—*Continued.*

Number of Certificate	Date 1873.	NAME.	GRADE.	ADDRESS.	Where Examination was passed.	Fee.
						$
322	Mar. 19	Moses Robbler	Mate.	St. John, N.B	do	5
323	do 19	Edward Perry Border	do	Horton, N.S	do	5
324	April 19	Laughlin McLean	Master.	St. James' St., Carleton, St. John, N.B	St. John	10
325	do 19	Abner J. Turner	Mate.	Harvey, Albert Co., N,B	do	5
326	do 19	Ovid Chapman Taylor	Master.	Rockland, N.B	do	10
327	do 22	Alexander Fraser	do	Pictou, N.S	Halifax	10
328	do 22	Neil Hall	Mate.	Sheet Harbor, N.S	do	5
329	do 22	James Bernard O'Brien	Master.	Halifax, N.S	do	10
330	do 22	Lockhart Porter	do	Hantsport, N.S	do	10
331	do 22	Henry Evans	do	Pictou, N.S	do	10
332	do 22	Charles McConell	do	Port Medway, N.S	do	10
333	do 22	John Thomas Cook	do	Richey's Cove, Lunenburg Co., N.S	do	10
334	do 29	Edward Norris	do	Halifax, N.S	do	10
335	do 29	Levi Noseworthy	Mate.	do	do	5
336	do 29	James Bindon Stuart	Master.	St. John's, Newfoundland	do	10
337	do 29	Charles William Brundage.	Mate.	St. John, N.B	St. John	5
338	do 29	Adolf Bergman	Master.	do	do	10
339	do 29	John Jinkins Kinney	do	Barrington, N.S	do	10
340	do 29	Samuel Augustus Gould	do	Maitland, N.S	do	10
341	do 29	Jessie Pierce	Mate.	Yarmouth, N.S	do	5
342	do 29	Henry Smith Jones	Master.	Liverpool, N.S	do	10
343	do 29	James Ryan	do	do	do	10
344	do 29	Dennis Galloghy	do	St. John, N.B	do	10
345	do 29	William J. Denniq	do	Yarmouth, N.S	do	10
346	do 29	Albert James Thurber	do	St. John, N.B	do	10
347	do 29	Rodney Brooks	do	do	do	10
348	do 29	Richard Tucker	do	do	do	10
349	do 29	William John Rourke	do	do	do	10
350	May 3	Hiram Joseph Foster	do	Alma, N.B	do	10
351	do 14	Edward Richardson	do	Sackville, N.B	do	10
352	do 14	Alexander Mahany	do	St. John, N.B	do	10
353	do 14	Horatio Jacob Fritz	do	do	do	10
354	do 29	John William Forbes	do	Pictou, N.S	Halifax	10
355	do 29	Ebenezar Peak	do	Walfville, N.S	do	10
356	do 29	Elijah Nickerson	do	Woods Harbor, N.S	do	10
357	June 4	James William Saunders	do	Clementsport, N.S	St. John	10
358	do 4	Charles Moore	do	Hopewell, N.B	do	10
359	do 4	James Murphy	do	Brooklyn, N.S	do	10
360	do 4	James William Gerow	Mate.	St. John, N.B	do	5
361	do 24	George Noble Fulton	Master.	Bass River, N.S	do	10
362	do 24	Mathew. Buckard	do	St. John, N.B	do	10
363	do 24	Henry William Lawrence	do	Hantsport, N.S	do	10
364	do 24	Joseph Stokes	do	St. John, N.B	do	10
365	do 24	James Nicolson	do	do	do	10
366	do 24	George McKenzie M'Intosh	do	do	do	10
367	do 24	James Stewart Crowe	Mate.	Maitland, N.S	do	5
368	do 24	Amos Denis Hilton	do	Rockville, N.S	do	5
369	do 27	Daniel McCully	Master.	Halifax, N.S	Halifax	10
370	do 27	John McClellan	do	do	do	10
371	do 27	James Stephen Jackson	do	do	do	10
372	do 27	James McCrossan	Mate.	Pictou N.S	do	5
						840
				Amount of fees received from candidates who failed to obtain their certificates		110
						950

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List of Certificates of Competency and Service granted to Masters and Mates, etc.,—*Continued.*

SERVICE

Number of Certificate	Date 1873.	Name.	Grade.	Address.	Where Examination was passed.	Fee.
						$
348	Jany. 4	Charles H. Gerroir.....	Master.	Arichat, Richmond Co., N.S.	Halifax	5
349	do 7	Peter McFarlane	do	159 Water-street, Halifax, N.S	do	5
350	do 7	William Lang	do	159 Water-street, Halifax, N.S	do	5
351	do 7	Michael Veal.....	do	159 Water-street, Halifax, N.S	do	5
352	do 7	Fabius Doty.....	do	Weymouth, Digby, N.S...	St John.....	5
353	do 7	George E. Wadman	do	St. John, New Brunswick.	do	5
354	do 8	James Augustus Farquhar.	do	Dartmouth, Nova Scotia ..	do	5
355	do 9	Augustin Villeneuve	do	Ha! Ha! Bay, Saguenay, Quebec	Halifax	5
356	do 9	James Gardner	do	Main-street, Liverpool, N.S.....	do	5
357	do 16	Wilson Dunn.....	do	Saint John, N.B..	St. John	5
358	do 16	John Thomas Hicks	do	Liverpool, N.S	Halifax	5
359	do 16	Isaac Vineo	Mate.	Arichat, Richmond, Cape Breton	do	3
360	do 16	Benjamin Rhuland.....	Master.	Lunenberg, N.S	do	5
361	do 16	Fred. Chas Quinlan.....	Mate.	Liverpool, Queen's Co., N.S	do	3
362	do 16	William Hopewell	Master.	Maitland-street, Halifax, N.S	do	5
363	do 17	Alfred Grand.	Mate.	Weymouth, Digby Co., N.S	do	3
364	do 17	George Sanders	Master.	Yarmouth, N.S.	do	5
365	do 20	Lamong Vineo	Mate.	Arichat, Richmond, N.S ..		
366	do 20	Amie Langlois.....	Master.	D'Escosse, Richmond Co., N.S	do	3
					do	5
367	do 23	Michael Sutton.....	Mate.	Richibucto, N.B.....	St. John.....	3
368	do 24	Richard P. Marshall	Master.	Weymouth, Digby Co., N.S	Halifax	5
369	do 27	William Lovegrove	do	Atz Lane, Halifax, N.S...	do	5
370	do 28	William Edward McNeill..	do	Port Gilbert, N.S.....	do	5
371	do 28	Thomas White.....	do	Maitland. N.S..	do	5
372	do 28	William Boudrot	Mate.	D'Escosse, Richmond, Co N.S	do	3
373	do 29	John Stewart.....	do	Halifax, N.S	do	3
374	Feby. 1	William John McNeily....	Master.	Margaretsville, N.S.....	do	5
375	do 1	James More	do	Maitland, N.S.....	do	5
376	do 1	John Bartley Caddel.....	do	Halifax, N.S	do	5
377	do 5	Joseph Loakhart.....	do	Corner Prince and Main-street, Hantsport, N.S ..	do	5
378	do 6	James Henry Inness	do	Liverpool, N.S	do	5
379	do 6	Henry L. Robertson	Mate.	do	do	3
380	do 6	Samuel L. Saunders.....	Master.	Sandy Cove, Digby Co., N.S.....	do	5
381	do 10	Albert Davidson	do	Prince-street, Hantsport, N.S	do	5
382	do 10	Lawrence Lee	Mate.	18 Gottingen-street, Halifax, N.S.....	do	3
383	do 14	George Henry Goudy.....	Master.	Maitland, Yarmouth Co., N.S	do	5
384	do 17	Ambroise Comeau	do	Digby, N.S.....	do	5
385	do 17	Angus McDonald.....	do	Antigonish, N.S	do	5
386	do 17	Albert Israel	Mate.	Freeport, Digby Co., N.S.	St. John.....	3
387	do 21	Norman Shaw	Master.	Yarmouth, N.S.	Halifax	5
388	do 21	Mathew Walsh	do	14, Falkland-street, Halifax, N.S.....	do	5
389	do 21	Richard Power	do	Grafton-street, Halifax, N.S	do	5

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LIST of Certificates of Competency and Service granted to Masters and Mates, etc.,—*Continued.*

Number of Certificate	Date 1873.	NAME.	GRADE.	ADDRESS.	Where Examination was passed.	Fee.
						$
390	Feb. 21	William Morine	Master.	Port Medway, N.S	do	5
391	do 21	John Martell	do	194, Lower Water-street, Halifax, N.S	do	5
392	do 21	Edward Nan[illegible]	Mate.	Lunenberg, N.S	do	3
393	do 21	Charles de C[illegible]	Master.	226, Brunswick-street, Halifax, N.S.....	do	5
394	do 21	James Grant.	Mate.	159, Lower Water-street, Halifax, N.S	do	3
395	do 21	David Horne	do	Port Medway, N.S	do	3
396	do 27	Benjamin Chas. Dousett ..	do	Little Brook, Clare, N.S..	do	3
397	Mar. 3	James Simon Richard.....	Master.	Getson's Cove, Lahave, N.S	do	5
398	do 7	Charles Saunders	Mate.	Sandy Cove, Digby Co., N.S	St. John.....	3
399	do 7	John LeCain	Master.	Annapolis, N.S.....	Halifax	5
400	do 7	Thomas Stephens	do	169, Lower Water-street, Halifax, N.S	do	5
401	do 7	Isaac Rodenhisor	do	Lahave, N.S.....	do	5
402	do 10	Gabriel Saulnier	Mate.	Port Acadia, Clare Co., N.S.....	do	3
403	do 14	Christn. Owen Hiles	do	Canning Cornwallis, N.S..	do	3
404	do 14	Desire Boudroit	Master.	Polomand, Richmond Co., N.S.....	do	5
405	do 14	Edward Sampson	Mate.	Arichat, West Richmond Co., N.S....	do	3
406	do 15	Arthur Pertus	Master.	D'Escousse, Richmond Co., N.S.....	do	5
407	do 15	John Pertus	do	D'Escousse, Richmond Co., N.S.....	do	5
408	do 15	Sinclair McKay	Mate.	St. John, N.B.....	St. John.....	3
409	do 15	James Thomas West	Master.	70, Lockman-street, Halifax, N.S	Halifax	5
410	do 15	Chas. Wm. Haddock.....	Mate.	St. James-street, St. John, N. B.	St. John.....	3
411	do 15	Robert Kelly Rose.....	Master.	Maitland, Yarmouth, N.S.	do	5
412	do 15	Wm. Brittain Price.....	do	Carleton, St. John	do	5
413	do 18	Peter Porrier	do	West Arichat, Richmond Co., N.S	Halifax	5
414	do 18	Richard Neville.....	do	Port Medway, N.S	do	5
415	do 18	Aime Porrier.....	Master.	W. Arichat, Richmond Co., N.S	Halifax	5
416	do 18	Abraham Leblanc	do	W. Arichat, Richmond Co., N.S..	do	5
417	do 20	James Frederick Williams.	Mate.	Clements Port, Annapolis Co., N.S	do	3
418	do 20	William Le Cain.....	Master.	Clements Port, Annapolis Co., N.S	do	5
419	do 22	Joseph M. Tibbitts	do	Liverpool, N.S	do	5
420	do 22	Olonzo Webb.....	Mate.	Pictou, N.S	do	3
421	do 22	William Albert Copp	Master.	Harvey, Albert Co., N.B .	St. John.....	5
422	do 22	Norman Frazer.....	Mate.	Tatamagouche.....	Halifax	3
423	do 22	John Boudrault.....	Master.	Polomand, Richmond Co., N.S	do	5
424	do 27	William Spicer	do	Hillsburg, Digby Co., N.S.	do	5
425	do 31	Lemuel Saunders	do	Sandy Cove, Digby Co., N.S...	do	5
426	do 31	Henry Joel Hennigar	Mate.	Hillsburg, Digby Co., N.S.	do	3
427	do 31	Joseph Macumber	Master.	Maitland, N.S.....	do	5
428	do 31	Charles Augustus Johnston	do	Clarence, Annapolis Co., N.S.....	do	5
429	do 31	John Hatfield	do	Parrsboro, N.S	do	5
430	do 31	Charles Philip Thomas....	do	Sandy Cove, Digby Co., N.S.....	do	5

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LIST of Certificates of Competency and Service granted to Masters and Mates, etc.,—*Continued.*

Number of Certificate	Date 1873.	NAME.	GRADE.	ADDRESS.	Where Examination was passed.	Fee.
						$
431	April 4	James Crane	Master.	Advocate Harbor, Parrsboro, N.S	do	5
432	do 4	Peter King	do	West Arichat, Richmond Co., N.S	do	5
433	do 4	Edward Charles Cousins	do	Digby, N.S	do	5
434	do 4	Henrick Adolphe Hansen	do	St. Marguerite, St. Roch, Quebec	Quebec	5
435	do 12	Peter Martell	do	Arichat, Richmond Co., N.S	Halifax	5
436	do 12	John R. King	do	West Arichat, Richmond Co., N.S	do	5
437	do 12	James Collins Price	do	Carleton, St. John, N.B	St. John	5
438	do 12	Council Turner Wood	do	Hillsboro, N.B	do	5
439	do 12	William Wallace Steele	Mate.	No. 9, Water-st., St. John, N.B	do	3
440	do 12	Fk. Stewart	do	91, Britain-st., St. John, N.B	do	3
441	do 12	Slippey Lent, jr.	Master.	Freeport, Digby Co., N.S.	do	5
442	do 12	Charles Leary	do	Sandy Cove, N.S	do	5
443	do 12	Charles J. Graham	do	Arichat Cape, Richmond, N.S	Halifax	5
444	do 12	Weston Wade	do	Grand Bay, Westfield Co., St. John, N.B	St. John	5
445	do 12	Wm. Nelson Belyea	do	Union-st., St. John, N.B.	do	5
446	do 12	Wm. Wesly Gaucher	do	Margaretsville, Annapolis Co., N.S	Halifax	5
447	do 12	George Adolphus Wallett	do	Port Gilbert, County Digby N.S	do	5
448	do 17	David M. Pettis	do	Parrsboro, Nova Scotia	do	5
449	do 17	James E. Pettis	do	Parrsboro, N.S	do	5
450	do 17	Geo. Boyce Sulis	do	Hillsboro, Digby Co., N.S.	do	5
451	do 17	David Wilson	do	169, L. Water-st, Halifax, N.S	do	5
452	do 23	Daniel McEachern	do	Halifax, N.S	do	5
453	do 23	Edward Smith	do	Liverpool, N.S	do	5
454	do 23	Andrew Dunn	do	Parrsboro, N.S	do	5
455	do 23	Henry Beaudrot	do	Richmond Co., Arichat, N.S	do	5
456	do 23	Joseph Edward Howard	do	Parrsboro, N.S	do	5
457	do 23	Wm. Palmer	Mate.	105, L. Water-st., Halifax, N.3	do	3
458	do 23	Wm. G. Hemeon	Master.	Liverpool, N.S	do	5
459	do 28	Lewis D. Forrest	do	West Arichat, Richmond Co., N.S	do	5
460	do 28	Wm. Hatfield	do	Parrsboro, N.S	do	5
461	May 1	Israel Flick	do	St. Mary's, Guysboro Co., N.S	do	5
462	do 1	Wm. Smith	do	Advocate Harbor, Cumberland Co., N.S	St. John	5
463	do 1	James Bedford Hamilton	Mate.	Hopewell Hill, Albert Co., N.B	do	3
464	do 3	Baptiste Gerroir	Master.	West Arichat, Richmond Co., N.S	Halifax	5
465	do 3	Timothy Outhouse	do	Sackville, Westmorland Co., N.B	St. John	5
466	May 3	Eldridge Foster	Master.	Bridgewater, Lunenburg Co., N.S	Halifax	5
467	do 3	Benjamin Hatfield	do	Advocate Harbor, Parrsboro Co., N.S	do	5
468	do 3	George R. Patton	do	Canning, Cornwallis Co., S.N	do	5

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LIST of Certificates of Competency and Service granted to Masters and Mates, etc.,—*Continued.*

Number of Certificate	Date 1873.		NAME.	GRADE.	ADDRESS.	Where Examination was passed.	Fee.
							$
469	May	3	Charles Thomas Smith....	Master.	Weymouth, Digby Co., N.S.....	do	5
470	do	3	Samuel Vineo.....	do	Arichat, Richmond Co., N.S.....	do	5
471	do	5	Samuel Leblanc..... ..	do	Arichat, Richmond Co., N.S.....	do	5
472	do	6	Rufus Patterson	do	St. James, St. Blue Rock, Carlton, N.B.....	St. John	5
473	do	6	Albert Samuel Porter.....	Mate.	Liverpool, N.S.....	do	3
474	do	6	Nicholas Bailie	do	119 Albermarle-street, Halifax, N.S.....	Halifax	5
475	do	6	Daniel Thomas Cameron ..	Master.	Halifax, N.S.....	do	5
476	do	7	Peter Forrest...	do	West Arichat, Richmond Co., N.S.	do	5
477	do	7	Michael Valentine Roche..	do	Cole Harbor, Halifax, N.S.	do	5
478	do	9	Peter Blampid.....	do	Arichat, Richmond Co., N.S.....	do	5
479	do	9	Charles Cameron	do	Halifax, N,S	do	5
480	do	13	Charles Hackett	do	North Sydney, Cape Breton	St. John	5
481	do	13	Jeremiah Drake Downey..	do	Carleton, St. John, N.B....	do	5
482	do	13	Robert Findley	Mate.	Sydney, Cape Breton.....	do	3
483	do	13	Frank Alfred Pye.....	Master.	Hopewell Cape, N.B.....	do	5
484	do	13	Thomas Kimber	Mate.	123 Prince William-street, St. John, N.B	do	3
485	do	13	John Quinlan.....	Master.	Rodney-street, Carlton, N.B.....	do	5
486	do	17	Mathias Mathieson.	do	42 South-street, St. John, N.S	do	5
487	do	17	Holmes Israel.....	do	Freeport, Digby Co., N.S.	do	5
488	do	17	Geo. McKenzie McIntosh.	Mate.	Germain-street, St. John, N.B.....	do	3
489	do	17	Charles Gabriel.....	Master.	10 Cornwallis-st., Halifax, N.S.	Halifax	5
490	do	19	Lewis Lendal Doane.....	do	Barrington, N.S.....	do	5
491	do	21	Samuel Smellie Risk.....	do	126 Charlotte-st., St. John, N.B.....	St. John	5
492	do	21	Jacob Obden Sypher.....	do	153 Prince William-street, St. John, N.B.....	do	5
493	do	21	James Edward Crosbie....	Mate.	Rockville, Yarmouth, N.S	do	3
494	do	21	James Carrol	Master.	Londonderry, N.S.....	Halifax	5
495	do	28	Edward De Laury.....	do	Arichat.....	do	5
496	do	28	Richard Turner.....	do	Great Village, Londonderry, N.S.....	do	5
497	do	28	James Henry Alkema.....	do	41 Buckingham-st., Halifax, N.S.....	do	5
498	do	29	Robert Nicol.....	do	Halifax, N.S	do	5
499	do	29	Henry Forbes.....	do	Maitland, Hants, Co., N.S.	St. John	5
500	do	29	Samuel McBride.....	Master.	Harborville, Cornwallis, N.S.....	Halifax	5
501	do	29	Robert R. Conley.....	Mate.	Granville, N.S.....	do	3
502	June	3	Richard Wagner.....	Master.	St. John, N.B	St. John	5
503	do	3	Wm. McCarthy	Mate.	Union-street, St. John, N.B	do	3
504	do	3	Thomas Hart Conley	Master.	Granville, N.S.....	Halifax	5
505	May	30	Leander Young.....	Mate.	Lunenberg, N.S.....	do	3
506	do	30	James Ratchford	do	Sydney, N.S	do	3
507	June	7	Caleb Peck..	Master.	Carlton, St. John, N.B...	St. John	5
508	do	7	Wm. Joel Foster.....	do	Salmon River, Alma, N.B.	do	5
509	do	7	James Woodworth.....	Mate.	Annapolis, N.S.....	do	3
510	do	7	Alexander Gray.....	do	Sackville, N.B.....	do	3
511	do	7	Robert Glass	Master.	St. George, N.B.....	do	5
512	do	9	George Bell Swaine..... ..	Mate.	Cape Negro, N.S	Halifax	3

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LIST of Certificates of Competency and Service granted to Masters and Mates etc.,—*Continued.*

Number of Certificate	Date 1873.	NAME.	GRADE.	ADDRESS.	Where Examination was passed.	Fee.
						$
513	June 9	Alex. Reed Greenwood....	Master.	N. E. Harbor, Shelburne Co., N.S.....	do	5
514	do 11	Isaac Bouché	do	Arichat, Richmond Co., N.S.....	do	5
515	do 11	Robert Johnston.....	do	478 Upper Water-street, Halifax, N.T.....	do	5
516	do 11	Andrew Harrington.....	Mate.	Brooklyn, Queen's Co., N.S	do	3
517	do 11	William Smith	Master.	Lunenburg, N.S.....	Halifax	5
518	do 11	James Alex McKean.....	do	Bridgewater, N.S.....	do	5
519	do 11	Wm. Whitman Barlow ...	do	Portland, St. John, N.B ..	St. John.....	5
520	do 11	Leander Smith	do	Cheverie, Hants Co., N.S.	do	5
521	do 11	John Munday	do	322, Upper Water Street, Halifax, N.S.	Halifax	5
522	do 11	Hugh Shields.....	do	Salmon River, Alma, Albert Co., N. B.	St. John	5
523	do 17	Thomas Henry Odell.....	Mate.	Digby, N.S.	Halifax	3
524	do 11	Charles Buckard.....	Master.	St. John, N. B.....	St. John	5
525	do 17	Reuben Munroe	do	Halls Harbour, Cornwallis, N. S.....	do	5
526	do 11	Levi Meloin Simpson	do	Muscareen, St. George, N. B.	do	5
527	do 11	George Sanders.....	do	Beaver River, Yarmouth Co., N.S.....	Halifax	5
528	do 22	Wm. Albert Howard	do	Parrsboro, N. S.....	do	5
529	do 24	John Brannen	do	25, Lockman Street, Halifax, N. S.	do	5
530	do 25	Banford Spragg	do	Springfield, N. B.....	St. John	5
531	do 25	James McKay	do	Tiverton, Digby Co., N.S.	do	5
532	do 25	Heman James Lee.....	Mate.	Yarmouth, N. S.....	do	3
533	do 30	Charles Henry Holder	Master.	Head Rodney Street, Carlton, St. John, N. B.....	do	5
534	do 30	James Conley	do	Deer Isle, N.B.	St. John.....	5
536	do 30	John Kelly.....	Mate.	Parrsboro, N. S.	Halifax	3
539	do 30	Wm. McIntosh	do	Carriboo, N. S.	do	3
						$853
			.....	Total Competency ..	.....	$950
			.....	,, Service	.....	853
						$1803

The sum of $1,803 has been deposited to credit of Receiver-General on account of fees received for the six months ended 30th June, 1873

MEMO.—The amount of fees received for the previous six months ended 31st December, 1872, was ..... $ 4,504

Making Total Amount deposited to credit of Receiver-General for the fiscal year ended 30th June, 1873, of ..... $ 6,307

WM. SMITH,
Deputy of Minister of Marine, &c.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, September, 1873.

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STATEMENT of Expenditure in connection with Examination and Classification of Masters and Mates, for the fiscal Year ended 30th June, 1873.

	$ cts.	cts.
Capt. P. A. Scott, Salary as Chairman of Board of Examiners	1,600 00	
do do Travelling expenses and allowances to Examiners	1,402 46	
British America Bank Note Company, Engraving and Printing Certificates	940 49	
C. Annand, advertising	2 25	
J. J. Foote, advertising	10 88	
Robertson, Roger & Co., advertising and printing	100 00	
J. & A. McMillan, stamps	12 00	
A. & N. McAulay, stationery	17 46	
A & H. Creighton, diagrams	27 45	
J. R. Jennett & Co., toilet set for office	5 75	
G. E. Martin & Co., *Nautical Magazine*	6 30	
A. F. Keating, services as clerk	7 50	
D. M. Browne, salary as clerk to Chairman of Board of Examiners, from 23rd November, 1872, to 30th June, 1873	484 39	
McNally & Seaton, Eaton, Fraser and others, preparing candidates for Examination	1,720 00	
G. C. Holland, sundry disbursements	129 25	
		6,466 18

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, September, 1873.

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COPY OF HER MAJESTY'S ORDER IN COUNCIL, GIVING EFFECT TO CERTIFICATES OF COMPETENCY ISSUED IN CANADA

AT THE COURT AT BALMORAL, THE 19TH DAY OF AUGUST, 1871.

PRESENT :

The QUEEN'S Most Excellent Majesty in Council.

WHEREAS, by "The Merchant Shipping (Colonial) Act, 1869," it is (among other things) enacted that where the Legislature of any British possession provides for the examination of, and grant of certificates of competency to, persons intending to act as masters, mates, or engineers on board British ships, and the Board of Trade reports to Her Majesty that they are satisfied that the examinations are so conducted as to be equally efficient as the examinations for the same purpose in the United Kingdom under the Acts relating to Merchant Shipping, and that the certificates are granted on such principles as to show the like qualifications and competency as those granted under the said Acts: and are liable to be forfeited for the like reasons and in the like manner, it shall be lawful for Her Majesty, by Order in Council :—

1. To declare that the said certificates shall be of the same force as if they had been granted under the said Acts :
2. To declare that all or any of the provisions of the said Acts which relate to certificates of competency granted under those Acts shall apply to the certificates referred to in the said Order :
3. To impose such conditions, and to make such regulations with respect to the said certificates, and to the use, issue, delivery, cancellation, and suspension thereof, as to Her Majesty may seem fit, and to impose penalties not exceeding fifty pounds for the breach of such conditions and regulations :

And that upon the publication in the *London Gazette* of any such Order in Council as last aforesaid, the provisions therein contained shall from a date to be mentioned for the purpose in such Order, take effect as if they had been contained in the Act; and that it shall be lawful for Her Majesty in Council to revoke any Order made under this section:

And whereas the Legislature of the British possession of Canada has provided for the examination of and grant by the Minister of Marine and Fisheries in the said Possession of certificates of competency for sea-going ships to persons intending to act as masters or mates on board British sea-going ships, which certificates are hereinafter denominated Colonial Certificates of Competency, and the Board of Trade have reported to Her Majesty that they are satisfied that the said examinations are so conducted as to be equally efficient as the examinations for the same purpose in the United Kingdom under the Acts relating to Merchant Shipping, and that the certificates are granted on such principles as to show the like qualifications and competency as those granted under the said Acts, and are liable to be forfeited for the like reasons and in the like manner :

Now therefore, Her Majesty, in exercise of the power vested in Her by the said recited Act, by and with the advice of Her Privy Council, is pleased,

(1.) To declare that the said Colonial Certificates of Competency granted by the Minister of Marine and Fisheries in the said possession of Canada shall be of the same force as if they had been granted under the said Acts, that is to say, the said Colonial Certificates of Competency as Masters of such sea-going ships shall be of the same force as if they were Certificates of Competency as Masters of foreign-going ships, granted under the said Acts, and the said Colonial Certificates of Competency as Mates of such sea-going ships shall be of the same force as if they were Certificates of Competency as First Mates of foreign-going ships granted under the said Acts.

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(2.) To declare that all the provisions of the said Acts which relate to Certificates of Competency for the foreign trade granted under those Acts, except the 139th section of "The Merchant Shipping Act, 1854," and so much of the 3rd paragraph of the 23 section of "The Merchant Shipping Act Amendment Act, 1862," as requires at the conclusion of a case relating to the cancelling or suspending of a Certificate, such Certificate, if cancelled, or suspended, to be forwarded to the Board of Trade. And the whole of the fourth paragraph of the same section shall apply to such Colonial Certificates of Competency.

(3.) To impose and make the conditions and regulations following, numbered 1 to 10 respectively, with respect to the said Colonial Certificates of Competency, and to the use, issue, delivery, cancellation, and suspension thereof, and to impose for the breach of such conditions and regulations the penalties therein mentioned.

Form of Certificate.

1. Every such Colonial Certificate of Competency shall be on parchment, and as nearly as possible similar in shape and form to the corresponding Certificate of Competency for the foreign trade, granted by the Board of Trade under the Acts relating to Merchant Shipping.

Name of Possession to be Inserted.

2. Every such Colonial Certificate of Competency shall have the name of the said possession of Canada inserted prominently on its face and back.

Certificates to be numbered consecutively.

3. Such Colonial Certificates of Competency shall be numbered in consecutive order.

Lists of Certificates granted, cancelled, &c., to be sent to Registrar-General of Seamen.

4. The Government of the said Possession shall furnish the Registrar-General of Seamen in London from time to time, with accurate lists of all such Colonial Certificates of Competency as may be granted as aforesaid by the said Minister of Marine and Fisheries, or as may for any cause whatsoever, be cancelled, suspended, renewed, or re-issued.

Three years' Domicile or Service necessary.

5. Such Colonial Certificates of Competency shall be granted only to persons who have been domiciled in the said Possession, or have served in ships registered therein for a period of, or for periods amounting to, at least three years immediately preceding their application for such Colonial Certificates.

Certificates of Competency granted contrary to this regulation shall be regarded as improperly granted.

Certificates not to be granted when former are Cancelled.

6. Such Colonial Certificates of Competency shall not be granted to any person who may have had a Certificate, whether granted by the Board of Trade or by the Government of a British Possession, cancelled or suspended under the provisions of the said Acts, or of any Act for the time being in force in any part of Her Majesty's Dominions, unless the period of suspension has expired, or unless intimation has been received from the Board of Trade, or the Government by whom the cancelled or suspended Certificate was originally granted, to the effect that no objection to the grant of such Colonial Certificate is known to exist, or unless a new Certificate has been granted to him by such Board or Government, and in the last named event no such Colonial Certificate of Competency shall be for a higher grade than the Certificate so last granted as aforesaid. Colonial Certificates of Competency granted contrary to this regulation shall be regarded as improperly granted.

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Certificates improperly granted may be cancelled without formal investigation.

7. Any such Colonial Certificate of Competency which appears from information subsequently acquired or otherwise, to have been improperly granted, whether in the above or in any other respect, may be cancelled by the Government of the said Possession or by the Board of Trade of the United Kingdom, without any formal investigation under "The Merchant Shipping Act, 1854," and the holder of such Certificate shall thereupon deliver it to the Board of Trade or the Government of the said Possession, or as they or either of them may direct, and in default thereof shall incur a penalty not exceeding fifty pounds, which shall be recoverable in the same manner as penalties imposed by the Acts relating to Merchant Shipping are thereby made recoverable.

Cancellation, &c., of a Certificate shall involve Cancellation of all the other Certificates possessed by its owner.

8. Every decision with respect to the cancellation or suspension of a Certificate pronounced by any Board, Court, or Tribunal, under the provisions of the said Acts shall extend equally to all the Colonial Certificates at the time possessed by the person in respect of whom the decision is made, as well as to all Certificates granted to him under any of the Acts relating to Merchant Shipping, and whether such Certificates be specified in such decision or not.

Certificates believed to be fraudulent may be demanded.

9. Any Officer of the Board of Trade or the Registrar-General of Seamen, or any of his officers, or a Superintendent of a Mercantile Marine Office, or a Consular Officer, or duly appointed Shipping Officer in a British Possession, may demand the delivery to him of any such Colonial Certificate of Competency which he has reason to believe has been improperly issued, or is forged, altered, cancelled, or suspended, or to which the person using it is not justly entitled, and may detain such Certificate for a reasonable period for the purpose of making enquiries respecting such issue, forgery, alteration, cancellation, suspension, or possession; and any person who without reasonable cause neglects or refuses to comply with such demand, shall incur a penalty not exceeding twenty pounds, which shall be recoverable in the same manner as penalties imposed by the Acts relating to Merchant Shipping are thereby made recoverable.

Suspended Certificates to be re-issued only by Colony by which originally granted.

10. Any such Colonial Certificate of Competency which has from any cause been cancelled or suspended, whether by a Tribunal of Canada, or elsewhere, shall be renewed or re-issued only by the Government of Canada.

This Order shall take effect in the said Possession of Canada from and after the date hereof.

(Signed) EDMUND HARRISON.

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NOTICE TO CANDIDATES FOR EXAMINATION AS MASTERS AND MATES, AND RULES AND REGULATIONS RELATING THERETO.

Place of examination.

The examinations will be held in the ports of Montreal, Quebec, St John, and Halifax, at such times as may be decided upon by the Minister of Marine and Fisheries, of which due notice will be given.

Testimonials of character, conduct, and ability, required.

Testimonials of character and of sobriety, experience, ability and good conduct on board ship, will be required of all applicants, and without producing them no person will be examined. As such testimonials will have to be closely examined by the examiners for verification before any certificates can be granted, it is desirable that candidates should lodge them as early as possible. The testimonials of servitude of foreigners and British seamen serving in foreign vessels, must be confirmed either by the Consul of the country to which the ship in which the candidate served belonged, or by some other official authority of that country, or by the testimony of some credible person on the spot, having personal knowledge of the facts required to be established. Upon application to the Board of Examiners, candidates will be supplied with a form which they will be required to fill up, and lodge with their testimonials in the hands of the Examiners.

How time in coasting trade will count.

Where the Board of Examiners are in every respect satisfied with the testimonials of a candidate, service in the coasting trade may be allowed to count as service, in order to qualify him for a Certificate of Competency for a "sea-going ship," as a mate, and two years' service as mate in the coasting trade may be allowed to count as service for a Master's Certificate, provided the candidate's name has been entered as Mate in the Coasting Articles, or other proof satisfactory to the Examiners, and provided he has already passed an examination.

Rules.

Qualifications for certificates of competency as mates.

The qualifications required for the ranks undermentioned are as follows:

1. A *Mate* or *Only Mate* must be nineteen years of age, and have been four years at sea. (Service in a superior capacity is in all cases to be equivalent to service in an inferior one.)

2. *In Navigation.*—He must write a legible hand, and understand the first rules of arithmetic and the use of logarithms. He must be able to work a day's work complete, including the bearings and distance of the port he is bound to, by Mercator's method; to correct the sun's declination for longitude; find his latitude by the meridian altitude of the sun, and by single altitude of the same body off the meridian. He must be able to observe and compute the variation of the compass from azimuths and amplitudes; be able to compare chronometers and keep their rates; and be able to find the longitude by them from an observation of the sun by the usual methods. He must be able to lay off the place of the ship on the chart, both by the bearings of known objects, and by latitude and longitude. He must be able to determine the error of a sextant, and to adjust it; also to find the time of high water from the known time at full and change.

3. *In Seamanship.*—He must give satisfactory answers as to the rigging and stripping of ships and stowing of holds; must understand the measurement of the log-line, glass, and lead-line; be conversant with the rule of the road, as regards both steamers and sailing vessels, and lights and fog-signals carried by them, and will also be examined as to his acquaintance with "the Commercial Code of Signals for the use of all nations." In addition to

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which he will be required to know how to moor and unmoor and keep a clear anchor; to carry out an anchor, and to make the requisite entries in the ship's log. He will also be questioned as to his knowledge of the use and management of the mortar and rocket lines in the case of the stranding of a vessel, as explained in the official log-book. He will also be required to know how to shift large spars and sails; to manage a ship in stormy weather, to take in and make sail, to shift yards and masts, &c., and to get heavy weights, anchors, &c., in and out; to cast a ship on a lee shore; and and to secure the masts in the event of accident to the bowsprit.

Master.

4. A *Master* must be twenty-one years of age, and have been six years at sea, of which at least two years must have been as *Mate* or *Only Mate.*

5. In addition to the qualification for a *Mate* or *Only Mate*, he must be able to find the latitude by a star, &c. He will be asked questions as to the nature of the attraction of the ship's iron upon the compass, and as to the method of determining it. He will be examined in so much of the laws of the tides as is necessary to enable him to shape a course, and to compare his soundings with the depths marked on the charts. He will be examined as to his competency to construct jury rudders and rafts; and as to his resources for the preservation of the ship's crew in the event of wreck. He must possess a sufficient knowledge of what he is required to do by law as to entry and discharge, and the management of his crew, and as to penalties and entries to be made in the official log, and a knowledge of the measures for preventing and checking the outbreak of scurvy on board ship. He will be questioned as to his knowledge of invoices, charter party, Lloyd's agent, and as to the nature of bottomry, and he must be acquainted with the leading lights of the channel he has been accustomed to navigate, or which he is going to use.

Service in fore and aft rigged vessels.

6. In cases where an applicant for a certificate as *Master* has only served on a fore-and-aft rigged vessel, and is ignorant of the management of a square-rigged vessel, he may obtain a certificate on which the words "Fore-and-aft rigged vessel" will be written. This certificate does not entitle him to command a square-rigged ship. This is not, however, to apply to *Mates*, who, being younger men, are expected for the future to learn their business completely.

Punctuality of candidates' attendance.

7. Candidates are required to appear at the examination room punctually at the time appointed.

8. Candidates are prohibited from bringing into the examination room books or paper of any kind whatever. The slightest infringement of this regulation will subject the offender to all the penalties of a failure.

Candidates injuring examination papers.

9. In the event of any candidate being detected in defacing, blotting, writing in, or otherwise injuring any book or books belonging to the Board, the papers of such candidates will be detained until the book or books so defaced be replaced by him. He will not, however, be at liberty to remove the damaged book, which will still remain the property of the Board.

Candidates discovered copying, &c.

10. In the event of any candidate being discovered copying from another, or affording any assistance or giving any information to another, or communicating in any way with another during the time of examination, he will subject himself to a failure and its consequences.

11. No candidate will be allowed to work out his problems on a slate or on waste paper.

12. No candidate will be permitted to leave the room until he has given up the paper on which he is engaged.

Time allowed to work out navigation papers.

13. Candidates will be allowed to work out the various problems by the method and tables they have been accustomed to use, and will be allowed

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six hours to perform the work. At the expiration of six hours they will, if they have not finished, be declared to have failed, unless the Board of Examiners see fit to lengthen the period in any special case. If, however, the period is lengthened in any case, the special circumstances of that case and the reasons for lengthening the period must be reported to the Minister of Marine and Fisheries by the Examiners at the time they send in the report.

Corrections by inspection not allowed.

14. The corrections by inspection, from tables given in many works on navigation, will not be allowed (see Tables IX., XI., and XXI., in Norie's Epitome, &c.); every correction must appear on the papers of the candidates. The first-class are referred to page 519 of the Nautical Almanac, 1867, for further information on this subject.

15. Candidates are expected to bring their answers to all problems within, or not to exceed, a margin of one mile of position from a correct result.

16. In finding the longitude by chronometer, the logarithms used in finding the hour-angle should be taken out for seconds of arc.

In all other problems, the logarithms to the nearest minute will be sufficiently correct for all grades, except Master, from whom a degree of precision will be required, both in the work and in the results, beyond what is demanded from the inferior grade.

Examination to commence with that of mates.

17. In every case the examination for Master is to commence with the problems for Mate.

Re-examination in case of failure.

18. In all cases of failure the candidate must be re-examined *de novo*. If a candidate fails in *Seamanship* he will not be re-examined until after a lapse of six months, to give him time to gain experience. If he fails three times in *Navigation*, he will not be re-examined until after a lapse of three months.

Examination as to knowledge of commercial code of signals.

19. The Examiners are to insert in the Report of Examinations (under heading "Remarks") the words, "passed," or "failed," in Commercial Code of Signals, as the case may be.

Notes.

Correcting declination, &c.

Candidates will find it more convenient, both here and at sea, to correct the declination and other elements from the Nautical Almanac by the "hourly differences," which have been given in that work in order to facilitate such calculations, they will thereby render themselves independent of any proportional or logarithmic table for such purposes.

Standard of examination will be raised.

As the examinations of Masters and Mates are made compulsory, the qualifications have been kept as low as possible, but it is distinctly to be understood that the Minister of Marine and Fisheries may raise the standard from time to time, whenever, as will no doubt be the case, the general attainments of officers in the merchant service shall render it possible to do so without inconvenience; and officers are strongly urged to employ their leisure hours, when in port, in the acquirement of the knowledge necessary to enable them to pass their examinations; and masters will do well to permit apprentices and junior officers to attend schools of instruction, and to afford them as much time for this purpose as possible.

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NOTICE.

Examination of Masters and Mates.

By Virtue of an Order in Council, bearing date the 26th June, 1871, the following amendments have been made to the Rules and Regulations for examination of Candidates for Certificates of Competency as Masters and Mates in Mercantile Marine, as approved by Order in Council of 27th February, 1871 :

1st. Rule 1st has been so amended as to require five years' service at sea instead of four years, for a Mate or Only Mate, of which one year must have been as either second or only Mate, or as both ; service in a superior capacity being in all cases equivalent to service in an inferior capacity.

2nd. Candidates for Certificates of Masters and Mates must be examined in the use of the International Code of Signals, and failure in this branch will be treated as failure in Navigation.

By Order.

WM. SMITH,
Deputy of the Minister of Marine and Fisheries.

Department of Marine and Fisheries,
Ottawa, 20th July, 1871.

NOTICE TO CANDIDATES FOR EXAMINATION AS MASTERS.

By virtue of an Order in Council, dated the 20th December, 1872, Rule 4th of the Rules and Regulations relating to the Examination of Masters and Mates, has been amended, and will read as follows, viz. :—

"A Master must be twenty-one years of age, and have served six years at sea, of which at least one year shall consist of service as First or Only Mate, and one year as Second Mate."

By Order.

Wm. Smith,
Deputy of the Minister of Marine and Fisheries.

Department of Marine and Fisheries,
Ottawa, 27th December, 1872.

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CANADA.

By the Honorable the Minister of Marine and Fisheries for the Dominion of Canada.

CERTIFICATE OF COMPETENCY AS MASTER.

L.S.

*To*_____

WHEREAS it has been reported to me that you have been found duly qualified to fulfil the duties of Master of a sea-going ship in the Merchant Service, I do hereby, in pursuance of the Canadian Act respecting Certificates to Masters and Mates of Ships, 33 Vict., Cap. 17, grant you this Certificate of Competency.

Given under the Seal of the Minister of Marine and Fisheries of Canada at Ottawa, this_____day of_____187

[Registered]. *Minister of Marine and Fisheries.*

Deputy of Minister of Marine and Fisheries.

(Mate's Certificate similar to above.)

CANADA.

No. OF CERTIFCATE

*Address of Bearer*_____

*Date and Place of Birth*_____

*Signature*_____

*This Certificate is given upon an Examination passed at*_____

*on the*_____*day of*_____*187*____

Every person who makes, or procures to be made, or assists in making any false Representation for the purpose of obtaining for himself, or for any other person, a Certificate either of Competency or Service, or who forges, assists in forging or procures to be forged, or fraudulently alters, assists in fraudulently altering or procures to be fraudulently altered, any such Certificate or any Official Copy of any such Certificate, or who fraudulently makes use of any such Certificate or any Copy of any such Certificate which is forged, altered, cancelled, suspended, or to which he is not justly entitled, or who fraudulently lends his Certificate to or allows the same to be used by any other person, shall for each offence be deemed guilty of a Misdemeanor, and any Master or Mate who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Two Hundred Dollars.

Issued at the PORT of_____

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CANADA.

By the Honorable the Minister of Marine and Fisheries for the Dominion of Canada.

CERTIFICATE OF SERVICE AS MASTER.

L.S.

To _____

WHEREAS it has been reported to me that you have produced satisfactory evidence of your sobriety, experience, ability and general good conduct on board ship, and that you have fulfilled the duties of Master of a sea-going ship in the Merchant Service prior to the First day of January, 1870,

I do hereby, in pursuance of the Canadian Act respecting Certificates to Masters and Mates of Ships, 33 Vic., Cap. 17, grant you this Certificate of Service.

Given under the Seal of the Minister of Marine and Fisheries of Canada at Ottawa, this _____ day of _____ 187___

[Registered]. *Minister of Marine and Fisheries.*

Deputy of Minister of Marine and Fisheries.

(Mate's Certificate similar to above.)

CANADA.

No. OF CERTIFICATE

Address of Bearer _____

Date and Place of Birth _____

Signature _____

This Certificate is given upon an Examination passed at _____

on the _____ *day of* _____ *187*____

Every person who makes, or procures to be made, or assists in making any false Representation for the purpose of obtaining for himself or for any other person a Certificate either of Competency or Service, or who forges, assists in forging or procures to be forged, or fraudulently alters, assists in fraudulently altering, or procures to be faudulently altered, any such Certificate or any Official Copy of any such Certificate, or who fraudulently makes use of any such Certificate or any Copy of any such Certificate which is forged, altered, cancelled, suspended, or to which he is not justly entitled, or who fraudulently lends his Certificate to or allows the same to be used by any other person, shall for each offence be deemed guilty of a Misdemeanor, and any Master or Mate who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Two Hundred Dollars.

Issued at the PORT of _____

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APPENDIX No 13.

REPORT OF THE MARINE HOSPITAL AT ST. JOHN, NEW BRUNSWICK, FOR THE FISCAL YEAR ENDED 30TH JUNE, 1873.

St. JOHN'S, NEW BRUNSWICK, July 1873.

SIR,—The Commissioners of Marine Hospitals for Port of St. John, New Brunswick, respectfully submit their Annual Report of the Hospitals under their charge for the year ended 30th June, 1873.

On the 1st July, 1872, there remained in the "Kent" Hospital thirteen seamen, under medical treatment, one hundred and seventy-eight subsequently admitted—making one hundred and ninety-one sick and disabled seamen under medical treatment during the year. Of this number one hundred and sixty-three were duly discharged, five left without medical discharge, and three died. Two cases admitted in the "Kent" resulted with small-pox; and at the inclement season we concluded it benevolent, as well as a saving, and arranged with the Board of Health to admit them at their Small-pox Hospital. Eighteen remained in the "Kent" 1st July 1873, under medical treatment.

The general state of the Hospital has been quite satisfactory during the year; and the result of medical treatment, as now reported, most favorable.

For the year 1872, we had one hundred and eighty-nine patients, and eight deaths. And for the year 1873, one hundred and ninety-one patients, and three deaths.

The Quarterly Accounts of Expenditure, (together with vouchers) and receipts from your Department, were duly rendered, and the Commissioners now submit their Annual Account of Expenditure and Receipts, amounting to the sum of four thousand four hundred and seventy dollars, the Expenditure being strictly limited to what is essentially required for the Hospital.

Your Commissioners request particular reference to the Medical Officer's certificates now forwarded, of all the seamen admitted in the "Kent" for the year 1873. And they have much satisfaction to report their continued approval of the medical department, and the Hospital attendants,— the treatment of seamen admitted having most favorable results.

The old Hospital building, by occasional necessary repairs, continues in good serviceable condition for the present limited requirements.

The Hospital grounds, well laid out—are greatly beneficial to convalescent patients, and the Hospital garden yielding abundantly all such requirements for Hospital use.

Having reference to some outside observations regarding deficiency of our fixed dietary, we may remark that our dietary is equal to that of the British Army Regulation Diets, and that we direct, in all cases when deemed expedient, that it be supplemented by the Medical Officer (without limitation) whenever he deems such to be beneficial, and for the further comfort of the sick seamen.

All of which is respectfully submitted.

(Signed,) JOHN WARD,
JOHN WISHART,
CHARLES MCLAUCHLAN,
WILLIAM DOHERTY,
Commissioners, Marine Hospitals.

HONORABLE PETER MITCHELL,
Minister, Marine & Fisheries,
Ottawa,
Canada.

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APPENDIX No. 14.

REPORT ON MARINE HOSPITAL, ST. ANDREW'S, NEW BRUNSWICK, FOR FISCAL YEAR ENDED 30TH JUNE, 1873.

TEMPORARY MARINE HOSPITAL, ST. ANDREW'S, N.B.,
October 22nd, 1873.

SIR,—I have the honor to submit to you my Annual Report, for the information of the Department of Marine and Fisheries, from July 1st, 1872, to June 30th, 1873.

Expenditure for above fiscal year :—

	$ cts.
To disbursements for quarter ended Sept. 30th, 1872	134 24
" " " Dec. 31st, 1872	140 30
" " " March 31st, 1873.....	160 99
" " " June 30th, 1873	189 07
	$624 60

Receipts for above period :—

By cash per J. H. Harding, Esq., Agent of Department of Marine and Fisheries at St. John, for the above quarterly sums respectively.. $624.60

There have been thirteen patients admitted to the Hospital, all of whom have been discharged, with the exception of one man, who died from the effects of organic disease, a few hours after admission. Five slight cases were attended to outside the Hospital.

With the exception of a few weeks, the Hospital has never been free from one or more patients. A double fracture of the thigh, with concussion of the brain, the effects of a fall from a height of eighty feet, has been successfully treated.

The new Hospital now in course of erection, under the Department of Public Works, will be completed by the middle of December ensuing. No pains have been spared in order that the ventilation and drainage will be the most perfect of their kind, thus securing better results in the treatment of diseases generally, and more especially those of a febrile character.

I have, &c.,

S. T. GOVE,
Medical Superintendent.

WILLIAM SMITH, Esquire,
Deputy to Minister of Marine and Fisheries.

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APPENDIX No. 15.

STATEMENT of Expenditure on account of Marine and Emigrant Hospital Quebec, for the Fiscal Year ended 30th June, 1873.

Expenditure from 1st July, 1872, to 28th February, 1873.	$ cts.	$ cts.
Dr. P. Wells, salary as Secretary-Treasurer, to 31st January, 1873	350 00	
Dr. Landry, do do	200 00	
Dr. Rowand, do do	200 00	
Dr. Lemieux, do do	200 00	
Dr. Von Iffland, do do	100 00	
Dr. Robitaille, do do	100 00	
Dr. Sewell, do do	200 00	
		1,350 00
Rev. L. Hamlin, allowances as Chaplain to 31st December		72 00
Rev. J. S. Sykes, do do		72 00
P. Wells, pay lists of Surgeon and Staff to 28th February		1,740 81
P. Wells, provisions, medicines, water, fuel, gas, straw, washing, dry goods, &c., repairs to building, &c		10,445 26
		13,680 07

Expenditure from 1st March, to 30th June, 1873.	$ cts.	$ cts.
Dr. P. Wells, salary as Secretary-Treasurer, 1st February, to 30th June, 1873	250 00	
Dr. Landry, salary as Secretary-Treasurer, 1st January, to 30th June, 1873	200 00	
Dr. Rowand, do do	200 00	
Dr. Lemieux, do do	200 00	
Dr. Von Iffland do do	100 00	
Dr. Robitaille, do do	100 00	
Dr. Sewell, do do	200 00	
		1,250 00
Dr. L. L. Catellier, salary as Surgeon, from 1st March to 30th June		266 66
P. Wells, pay list, Matron and Staff, from 1st March to 30th June		666 00
Rev. J. R. Hamelin, allowance as Chaplain		72 00
Rev. J. S. Sykes, do do		72 00
Corporation of Quebec, water		500 00
Corporation of Quebec, sweeping chimneys		18 00
Gas Co., gas		184 02
J. McCone, groceries		455 17
G. Hall & Co., do		231 20
T. De Laney, meat		614 96
J. McCorkill, bread		151 20
M. Brophy, milk		404 08
Auger & Martineau, firewood		468 75
S. Leopard, do		186 94
R. Blakeston, sailmaker work		53 05
J. Gravel, cutting wood		57 75
J. R. Boswell, ale		31 00
W. H. Martin, do		35 10
J. Lessard, cartage		52 50
J. Mussen & Co., drugs		9 77
R. McLeod, do		7 30
R. Dugal, do		7 25
P. Cook, smiths' work		157 32
A. Laberge, joiners' work		203 44
A. Mulholland, plumbers' work		145 05
J. Drolet, straw and washing		239 29
Lefranc & Lemieux, stationery		15 25
Rev. J. R. Hamelin, to provide for children born in the hospital		200 00

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STATEMENT of Expenditure on account of Marine and Emigrant Hospital, etc.—*Continued.*

	$ cts.	$ cts.
J. Mossman, petty disbursements		63 07
P. Wells, petty expenses		272 25
G. T. Carey, advertising		9 60
D. S. Ricaby, furniture		218 70
Receiver-General, refund of unexpended balance		1 26
		7,319 93
		$21,000 00

WM. SMITH,
Deputy of Minister of Marine, etc.

DEPARTMENT OF MARINE AND FISHERIES,
Ottawa, September, 1873.

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APPENDIX No. 16.

STATEMENT of Expenditure on account of Marine Hospitals, Sick and Disabled Seamen, and Shipwrecked and distressed Seamen, for the fiscal year ended 30th June, 1873.

PROVINCE OF NEW BRUNSWICK.	$ cts.	$ cts.	$ cts.
L. B. Botsford, 9 months' salary as physician, to 31st March, 1873.	420		
G. J. Harding, 9 months' salary as physician to Pest House, 31st March, 1873	75		
Rev. Wm. Armstrong, 9 months' salary as chaplain, to 31st March, 1873	75		
C. Ward, 9 months' salary as secretary, to 31st March, 1873	300		
J. H. Harding, cost of maintenance of the hospital, from 1st July, 1872, to 31st March, 1873—9 months	2,591 35		
		3,461 35	
Marine Hospital, Richibucto.			
H. H. Wilson, medicines, and other supplies, for sick seamen		329 30	
Marine Hospital, Miramichi.			
J. Thompson, 9 months' salary as physician, to 31st March	150		
P. Lawlor, expenses of sick seamen	918 86		
		1,068 86	
Marine Hospitals, St. Andrews.			
M. A. Day, 9 months' wages as matron, to 31st March	150		
S. T. Gove, maintenance to do. do	285 53		
		435 53	
Marine Hospital, Hillsboro'.			
J. T. Gross, expenses of sick seamen		124 00	
Marine Hospital, Bathurst.			
John Ferguson, expenses of sick seamen		209 60	
Marine Hospital, Shediac.			
C. S. Theal, expenses of sick seamen		168 60	
Marine Hospital, Buctouche.			
F. E. W. Pouliot, medical attendance on sick seamen		97 50	
Marine Hospital, Hopewell.			
J. Carnworth, medical attendance		25 00	
Carried forward			

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STATEMENT of Expenditure on account of Marine Hospitals, Sick and Disabled Seamen, and Shipwrecked and Distressed Seamen, for the fiscal year ended 30th June, 1873—*Continued.*

	$ cts.	$ cts.	$ cts.
Brought Forward.....	.....	.....	.....
Marine Hospital, Harvey.			
R. Palmer, medical attendance, &c.....	73 00		
J. Brewster, expenses of sick seamen.....	120 50		
J. Cameron, do	65 00		
L. Wood, do	63 00		
R. Turner, do	61 57		
B. Rennie, do	24 15		
Mrs. Wallace, do	35 00		
E. Kinno, do	31 25		
Jane Reid, do	78 00		
J. McLaughlin, do	12 00		
A. Berryment, watching.....	8 00		
		571 47	
Marine Hospital, Dalhousie.			
W. Montgomery, medical attendance.....	.....	7 00	
Marine Hospital, Sackville.			
J. Dickson, medical attendance.....	116 12		
R. Cole, do	24 00		
		140 12	
Shipwrecked and Distressed Seamen.			
E. Gaskill, expenses of crew of *Sarah Sloan*	163 26		
do services.....	50 00		
H. Webber, burial expenses of Captain Blant.....	16 66		
M. N. Powers, coffins for seamen of the *Reward*.....	69 00		
J. Bartlett, clothing for men of the *Ellen*.....	18 00		
J. S. May, do *Dove*.....	27 20		
do do *Pioneer*.....	100 35		
do do *Sumner*.....	197 25		
Mullen Bros., do *Reward*.....	55 30		
J. S. May, sundry disbursements.....	38 60		
J. H. Harding, boarding and forwarding sundry distressed seamen.....	236 81		
		972 43	
			7,610 76
PROVINCE OF NOVA SCOTIA.			
Sick and Disabled Seamen.			
W. W. Bowin, expenses of sick seamen, at Cow Bay	427 68		
S. Donoven, do Arichat...	741 75		
J. J. Letson, do Port Medway	370 23		
J. McNabb, do Pugwash.....	35 20		
C. E. Leonard do Sydney	1,270 24		
P. S. Bowen do North Sydney.....	199 35		
P. A. Malcolm, do Cheverie	254 75		
M. McDonald, do Port Hawkesbury.....	47 70		
D. Sanders, do Margaretsville..... ..	8 00		
A. Townsend, do Parrsboro	64 00		
A. McN. Parker, do Walton	17 25		
J. Swain, do Port La Tour	16 00		
E. Dowling, do Lunenburg	86 00		
Carried Forward.....	.....	.....	.....

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STATEMENT of Expenditure on account of Marine Hospitals, Sick and Disabled Seamen, and Shipwrecked and Distressed Seamen, for the fiscal year ended 30th June, 1873—*Continued.*

			$ cts.	$ cts.	$ cts.
Brought forward					
Z. Crosscup, expenses of sick seamen at		Bear River	57 50		
C. V. Rawding,	do	Canada Creek	33 00		
D. McCulloch,	do	Pictou	796 08		
A. Lent,	do	Tusket Wedge	130 00		
D. McKeen,	do	Port Caledonia	196 50		
S. Donaven,	do	Petite de Grat	10 00		
E. R. Randall,	do	Bayfield	13 50		
D. McKeen,	do	Glace Bay	68 00		
do	do	Port Mulgrave	81 75		
B. Viets.	do	Digby	116 50		
Digby Board of Health,	do	do	190 00		
F. E. Leave,	do	Lingan	505 00		
J. C. McDougall	do	St. Peters	5 00		
D. Campbell,	do	Port Hood	87 50		
C. D. Mader,	do	Mahone Bay	16 00		
J. J. Kerr,	do	Amherst	66 54		
E. O'Brien,	do	Windsor	199 30		
E. Corbett,	do	Harbour au Bouche	89 41		
T. C. Tobias,	do	Annapolis	21 00		
do	do	Thomas Cove	57 95		
J. Mun,	do	Shelburne	10 00		
J. H. Liddle,	do	Halifax	2,235 89		
H. W. Johnston, certificates of admission into hospital			44 00		
J. H. Leonard,	do	Liverpool	168 65		
				8,737 22	
Shipwrecked and Distressed Seamen.					
P. Taply, boarding distressed seamen			209 33		
J. Richards,	do		3 00		
W. J. Bigelow,	do		12 00		
M. Noonan,	do		6 00		
C. E. Leonard,	do		81 00		
E. Bullomer,	do		8 00		
T. Ward,	do		10 50		
F. Brittan,	do		13 75		
B. Vetis,	do		26 00		
H. W. Johnston,	do		18 60		
P. Bashinpin,	do		17 40		
T. A. Malcolm,	do		10 25		
P. Fleming,	do		7 20		
W. J. Bigelow, clothing distressed seamen			35 00		
Robertson McLeod & Co.,	do		3 46		
Burns & Murray,	do		145 30		
C. P. Flynn,	do		2 30		
W. Pryor & Co.,	do		389 30		
E. Rand, conveyance of seamen			4 76		
S. Townshend,	do		14 86		
G. Shaw,	do		49 64		
S. Herman,	do		42 00		
P. Taple,	do		82 50		
T. E. Moberly,	do		39 15		
D. Cameron,	do		40 00		
A. Lablanc,	do		8 40		
W. Young,	do		16 80		
M. Pillay,	do		18 25		
T. Kelly,	do		4 50		
T. W. Fishwick,	do		52 00		
D. Hunter,	do		21 17		
G. Shaw,	do		5 45		
J. J. Letson,	do		27 74		
E. Dowling,	do		40 00		
Carried forward			$		

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STATEMENT of Expenditure on account of Marine Hospitals, Sick and Disabled Seamen, and Shipwrecked and Distressed Seamen, for the fiscal year ended 30th June, 1873—*Continued.*

	$ cts.	$ cts.	$ cts.
Brought forward.....	.....	.....	.....
W Pryor, do	160 00		
P. Fleming, do	2 40		
B. Viets, do	10 99		
L. A. Bramly, do	7 50		
A. Smith, do	8 76		
S. McKenzie, do	20 93		
W. Nelson, do	12 00		
H. W. Johnston, do	18 30		
S. Watch, do	42 00		
A. McAuley, do	7 67		
D. Dimmock, do	21 50		
Doull & Muller, do	12 28		
J. D. Cummins, do	28 00		
C. Beex, do	8 40		
T. Conley, do	5 00		
G. W. Halls, do	3 89		
W. Gedee, do	5 00		
J. G. Bollong, do	6 82		
S. Swain, do	6 57		
L. McDougall, do	5 00		
W. W. Bown, expenses crew of *Cordelia*.....	146 50		
M. Carmichael, do *Sarah McLeod*	20 41		
T. E Moberly, do *Magdala*	71 64		
Lews Harrington & Co., services of tug boat to help the *Branch*..	40 00		
J. Silver & Co., expenses of crew of *Oneida*.....	100 05		
W. H. Bown, expenses of distressed seamen at Cow Bay.....	44 50		
D. McCulloch, do Pictou.....	19 82		
E. D. Tremain, do Port Hood.....	4 25		
J. H. Freeman, do Liverpool.....	111 10		
S. Donovan, do Arichat.....	121 00		
T. M. Bown, do North Sydney....	223 47		
S. Jones, do Weymouth.....	19 50		
B. H. Ruggles, do Westport.....	137 80		
S. Nicholson, expense of distressed seamen at Cape Breton.....	16 00		
W. J. Bigelow, do Cape Canso.....	25 35		
A. S. Townsend, burial expenses.....	12 00		
J. P. Kerr, expenses at Arichat.....	40 30		
		3,012 31	
			11,749 88
PROVINCE OF ONTARIO.			
St. Katherine's Hospital, legislative grant.....	.....	.....	800 00
PROVINCE OF BRITISH COLUMBIA.			
Capt. Cooper, sundry disbursements	.....	.....	171 45
PROVINCE OF QUEBEC.			
Sick and Disabled Seamen.			
J. J. Fox, expenses of sick seamen at Amherst, Magdalen Island.	288 55		
do Commission on Disbursements in connection with distressed British seamen	132 51		
John Fraser, expenses of sick seamen at New Carlisle.....	217 55		
G. Le Boutillier, do Perce..... ..	28 00		
Joseph Eden, do Gaspe.....	30 00		
J. B. Belleau, do Gaspe..	137 00		
Carried forward.....	... .	.....	.....

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STATEMENT of Expenditure on account of Marine Hospitals, Sick and Disabled Seamen, and Shipwrecked and Distressed Seamen, for the fiscal year ended 30th June, 1873.—*Continued.*

	$ cts.	$ cts.	$ cts.
Brought forward.....	.....	....	.....
G. C. Blair, expenses of sick seamen at Chicoutimi....	78 00		
L. E. Beauchamp, do do	46 37		
P. B. Casgrain, do Quebec.....	50 00		
Montreal General Hospital, expenses of sick seamen.....	2701 20		
J. G. C. Blackhall, do	2 00		
J. T. Paradis, do	8 00		
		3,719 18	
Sick and Distressed Seamen.			
R. H. Russell, expenses at Quebec.	104 32		
G. Ouellette, rescuing seamen in Gulf of St. Lawrence.....	20 00		
A. Anctil, do do	25 00		
F. F. Laurent, do do	30 00		
G. Fournier, do do	10 00		
P. Moran, do do	5 00		
F. Caron, do do	5 00		
		199 32	
Sick and Distressed Seamen—General Account.			
Board of Trade, England, expenses of crew of *Alloa*.....	107 07		
do do *Ethel*	53 17		
do do *E. R. Brown*.....	32 40		
do do *Le Mira N*.....	55 40		
do do *Stampede*	100 25		
do do *Lady Bird*	76 30		
do do *Albatross*.....	4 87		
do do *Marcella* and *Rough Diamond*	116 63		
do do *Astra, Uber, J. Jeffrey, Pembroke* and *Sunbeam*	183 28		
do do *Maria, Eliza* and *Pembroke*	88 24		
do do *Amelia, Bonitte, Jesse* and *Mrs R. C.*.....	212 76		
do do *Thames, Helena, W. H. Bigelow*, and *Annie M. Cann*	864 68		
do do *Amelia* and *Express*..	179 58		
do do *Annie*.....	162 68		
do do *Maggie A. Smith, Marysville, P. Grant* and *Ripple*.....	905 48		
do do *David Cannon, Sunbeam* and *Marcella* .	57 40		
		3,200 19	
			27,150 43

WM. SMITH,
Deputy of Minister of Marine, &c.

DEPARTMENT OF MARINE AND FISHERIES,
Ottawa, September, 1873.

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STATEMENT of Expenditure on account of Marine Hospitals, Sick and Disabled Seamen, and Shipwrecked and Distressed Seamen, for the fiscal year ended 30th June, 1873—*Continued.*

RECAPITULATION.

	$ cts.	$ cts.	$ cts.
Sick and disabled Seamen, Province of New Brunswick	6,638 33		
do do Nova Scotia.....	8,737 22		
do do Quebec.....	3,719 18		
do do Ontario	500 00		
do do British Columbia	171 45		
		19,766 18	
Shipwrecked and distressed seamen, Province of New Brunswick.	972 43		
do do Nova Scotia	3,012 31		
do do Quebec.....	199 32		
do do Reimbursed the Board of Trade, England	3,200 19		
		7,384 25	
			27,150 43

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APPENDIX No. 17.

STATEMENT of Receipts on account of Sick Mariners' Fund, for the entire Dominion, for the fiscal year ended 30th June, 1873.

	Q'rter ended Sept. 1872.	Q'rter ended Dec. 1872.	Q'rter ended March 1873.	Q'rter ended June, 1873.	Total.
Quebec.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Rimouski	24 12	6 78	155 18	10 44	196 52
Three Rivers	.....	84 32	.....	.....	84 32
Perce	13 22	11 36	.....	12 00	36 58
New Carlisle	58 94	15 90	.....	20 04	94 88
Magdalen Islands	13 92	5 06	.....	3 86	22 84
St. John	666 36	619 64	.....	103 18	1,389 18
Quebec	5,760 43	2,501 18	144 48	5,236 36	13,642 45
Montreal	1,356 82	734 34	.....	590 84	2,682 00
Gaspé	41 62	60 26	.....	39 76	141 64
Phillipsburg	.....	.....	.....	3 04	3 04
Stanstead	.....	.....	.....	12 12	12 12
	7,935 43	4,038 84	299 66	6,031 64	18,305 57
New Brunswick.					
Bathurst	73 78	21 08	44 08	1 70	140 64
Campobello	20 38	44 66	6 06	30 82	101 92
Caraquet	68	2 74	.....	.....	3 42
Chatham	589 40	98 80	.....	334 22	1,022 42
Dalhousie	113 58	46 36	.....	69 98	229 92
Hillsboro	57 08	10 56	.....	5 38	73 02
Moncton	6 52	.....	.....	.....	6 52
New Castle	207 52	116 00	.....	119 96	443 48
Richibucto	124 72	55 56	.....	229 56	409 84
Shediac	126 96	27 12	.....	19 24	173 32
St. Stephen	72 38	23 38	1 70	113 18	210 64
Shippegan	.....	6 04	.....	3 84	9 88
Sackville	17 92	12 30	.....	14 70	44 92
West Isles	.....	10 86	1 00	1 28	13 14
St. John	1,685 34	1,109 56	492 04	1,520 86	4,807 80
Dorchester	39 68	5 98	.....	11 76	57 42
St. Andrew's	38 72	12 10	17 84	23 36	92 02
St. George	91 36	43 66	.....	47 42	182 44
	3,266 02	1,646 76	562 72	2,547 26	8,022 76
Nova Scotia.					
Liverpool	116 66	36 61	103 20	48 54	305 01
Sydney	983 12	286 04	.....	447 66	1,716 82
Yarmouth	61 58	116 90	81 92	154 78	415 18
Lockport	11 14	19 76	3 28	5 88	40 06
Annapolis	32 30	11 20	17 30	9 56	70 36
Port Hawkesbury	16 84	15 80	6 00	9 64	48 28
Pictou	854 12	431 56	.....	147 52	1,433 20
Cow Bay	455 78	.....	.....	.....	455 78
Weymouth	31 52	6 36	.....	22 10	59 98
Arichat	97 14	25 16	.....	45 90	168 20
Cornwallis	9 80	2 78	.....	8 04	20 62
Bridgetown	1 76	62	.....	.....	2 38
Medway	35 74	19 16	26 16	44 66	125 72

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STATEMENT of Receipts on account of Sick Mariner's Fund, for the entire Dominion, etc.—*Continued.*

Nova Scotia.—Continued.	Q'rter ended Sept. 1872.	Q'rter ended Dec. 1872.	Q'rter ended March 1873.	Q'rter ended June, 1873.	Total.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Port Hood	1 14	1 10	.....	1 24	3 48
Port Mulgrave	24 98	1 68	53 38	46	80 50
Barrington	9 16	4 66	9 26	15 68	38 76
Antigonish	7 76	6 18	.....	8 98	22 92
Lunenburg	57 02	70 28	31 38	51 78	210 46
Parrsboro	21 36	37 12	7 18	23 44	89 10
Digby	54 62	28 06	24 06	10 08	116 82
North Sydney	281 18	191 80	.....	230 50	703 48
Londonderry	3 68	14 24	.....	.....	17 92
Baddeck	8 48	.....	.....	7 60	16 08
Halifax	688 62	915 80	846 60	963 62	3,414 64
Windsor	254 18	153 80	16 72	125 98	550 68
Margaretsville	.....	.....	.....	2 84	2 84
Amherst	169 88	.....	3 88	.....	173 76
Shelburne	5 34	.....	.....	.....	5 34
	4,294 90	2,396 67	1,227 32	2,386 48	10,305 37
British Columbia.					
Victoria	.....	.....	131 32	371 06	502 38

RECAPITULATION.

	Q'rter ended Sept. 1872.	Q'rter ended Dec. 1872.	Q'rter ended March 1873.	Q'rter ended June, 1873.	Total.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Quebec	7,935 43	4,038 84	299 66	6,031 64	18,305 57
New Brunswick	3,266 02	1,646 76	562 72	2,547 26	8,022 76
Nova Scotia	4,294 90	2,396 67	1,227 32	2,386 48	10,305 37
British Columbia	.....	.....	131 32	371 06	502 38
Total	15,496 35	8,082 27	2,221 02	11,336 44	37,136 08

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APPENDIX No. 18.

REPORT OF THE SHIPPING MASTER, QUEBEC, FOR THE FISCAL YEAR ENDED 30TH JUNE, 1873.

The number of Seamen shipped from the 1st July, 1872, to the 30th June, 1873 inclusive, was		2330
From which deduct the crews of ships registered at Quebec, new ships, also seamen who engaged but did not join their vessels, and whose substitutes were shipped without paying fees		496
Total number paying fees		1,834
Number of British ships that shipped seamen during the above period		300
Number of Colonial ships		55
Number of Quebec registered ships		32
Number of new ships		12
Total number of Ships		399
Number of vessels which paid no fees, consisting of Quebec registered ships		32
Do. do. new ships		12
Total		44
Number of seamen discharged, paying fees		560
Number of shipwrecked seamen discharged, against whom no fee was charged		247
		807
Fees received from 1,834 seamen shipped, at $1 each	$1,834 00	
Fees received from 560 seamen discharged	271 27	
Fees received from 346 certificates, at 50 cents each	173 00	
Total	2,278 27	
Disbursements as per Account rendered	182 78	
Lodged in Bank of Montreal to Credit of Receiver-General	$2,095 49	

R. H. RUSSELL,
Shipping Master and Chief of River Police.

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STATEMENT of Receipts and Disbursements of the Shipping Office, Quebec, for the fiscal year ended 30th June, 1873.

RECEIPTS.	$ cts.	$ cts.
R. H. Russell, fees received from seamen		2,278 27
DISBURSEMENTS.		
Middleton & Dawson, stationery	11 95	
Morning Chronicle, subscription	6 00	
S. T. Shaw, cash box	7 50	
Middleton & Dawson, stationery	3 63	
R. H. Russell, petty disbursements	19 50	
T. O. Doyd, wages as clerk	134 20	
Balance		182 78
		2,095 49
DISPOSED OF AS FOLLOWS:—		
1872.		
Dec. 19.... Receiver-General, deposited to credit		650 00
Oct. 18.... do do		900 00
1873.		
July 23.... do do		545 49
		2,095 49

WM. SMITH,
Deputy of Minister of Marine, etc.

DEPARTMENT OF MARINE AND FISHERIES,
Ottawa, September, 1873.

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APPENDIX No. 19.

REPORT OF THE SHIPPING MASTER FOR THE PORT OF ST. JOHN, NEW BRUNSWICK, FOR THE FISCAL YEAR ENDED 30TH JUNE, 1873.

SHIPPING OFFICE,
ST. JOHN, NEW BRUNSWICK,
August 30th, 1873.

SIR,—I have the honor to enclose a statement of the income and expenditure of the Shipping Office at this Port, for the fiscal year ending the 30th June, 1873.

The number of men shipped and discharged during the past year, represented 4,957, against 3,962 the previous year, being an increase over the corresponding year of 995 men. The increase of the business of the office is owing to the large increase of new tonnage at the Port, and the high rate of wages has induced seamen from the United States to seek the Port for employment.

Wages for the year have been unusually steady, rating by the month at $25; and for the run to Europe, at $55.

I am, &c.,
(Signed) ALLAN MCLEAN,
Shipping Master.

The Honorable PETER MITCHELL,
Minister of Marine and Fisheries,
Ottawa, Dominion of Canada.

STATEMENT of Income and Expenditure of the Shipping Office, at the Port of St. John, N. B., for the fiscal year ending 30th June, 1873.

			Men.	$	cts.
Shipped and discharged in	July,	1872.....	569	.....	....
" "	Aug.	"	476	....	....
" "	Sept.	"	368	....	.....
" "	Oct.	"	434	....	.....
" "	Nov.	"	457	.....	.....
" "	Dec.	"	430	....	....
" "	Jan.	1873.....	319	.....	.....
" "	Feb.	"	271	.....	.....
" "	March	"	386	....	....
" "	April	"	342	....	.....
" "	May	"	519	....	....
" "	June	"	446	....	....
			4,957	2,478	50
		Expenditure.			
Paid assistant and incidental expenses				1,298	88
Net income of Office.....				1,179	62

(Signed) ALLAN MCLEAN,
Shipping Master.

Shipping Office, St. John, N. B.,
August 30th, 1873.

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APPENDIX No. 20.

REPORT OF SHIPPING MASTER FOR PORT OF PICTOU, NOVA SCOTIA, FOR HALF YEAR ENDED 31st DECEMBER, 1873.

SHIPPING MASTER'S OFFICE,
PICTOU, NOVA SCOTIA, 31st Dec., 1873.

SIR,—I have the honor to transmit herewith a return of seamen shipped and discharged at the Port of Pictou, during the half year ended this day, together with a statement of the income and expenditure in connection therewith during that period.

I have, &c.,
(Signed) MALCOLM CAMPBELL.

RETURN of the number of seamen shipped and discharged at the Port of Pictou, Nova Scotia, during the half-year ended 31st December, 1873, and shewing the income and expenditure during that period.

Income.

824 men shipped, paying a fee of 50 cents. each	$412 00	
461 men discharged, paying a fee of 30 cents. each ..	138 30	
		$550 30

Expenditure.

Salary of Deputy Shipping Master for half-year	$100 00	
Half-year's rent of office	60 00	
Printing, stationery, and miscellaneous expenses	50 00	
		$210 00
Amount reverting to Shipping Master, as his fees of office		$340 00

(Signed) MALCOLM CAMPBELL.

Port of Pictou, Nova Scotia,
31st December, 1873.

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APPENDIX NO. 21.

REPORT ON MONTREAL WATER POLICE FOR FISCAL YEAR ENDED 30th JUNE, 1873.

MONTREAL, July 1873.

SIR,—In accordance with your instructions, I have the honor to submit the accompanying Return showing the number of Prisoners arrested by the Montreal Water Police, and a statement of Expenditure for the fiscal year ended 30th June, 1873.

On the 22nd day of April, 1872, the prescribed number of men were sworn in—disbanded on the thirtieth day of November in the same year, and again pursuant to your instructions embodied on the first day of May, 1873, and so remained at the close of the fiscal year.

The Force as at present constituted consists of one Chief Constable, four Sergeants, and twenty Constables.

As the Department has been pleased to call for an account of the proceedings of the Water Police, I have caused to be collected from Chief McLaughlin's daily reports a brief summary of the principal events that have taken place up to the date mentioned, which will give some idea of the casualties annually occurring on the wharves and docks.

July 1st, 1872.—A carter crossing Wellington Bridge, fell off his cart, and instantly expired—taken to his home.

July 6th, 1872.—A man working in the hold of the steamship *Bangalore* dangerously injured by a chain falling on his head. Conveyed to the General Hospital.

July 12th, 1872.—Steamer *Quebec*, on arrival, handed over a sick passenger. Conveyed to General Hospital.

July 13th, 1872.—Horse and cart fell into Elgin basin. Saved with the aid of bystanders.

July 16th, 1872.—Man severely injured while hoisting pig iron from lighter into steamship *Manitoban*. Conveyed to his residence.

Chief Mate of steamship *Middleton* fell overboard at Queen's Wharf, and was drowned.

July 19th, 1872.—A man working on steamship *Manitoban* fell into the hold and was severely injured. Carried to the General Hospital.

A woman, attempting to take her small dog out of the Canal, fell in. Rescued by two of the force.

July 24th, 1872.—A carter driving his truck along Common Street, the load being too light in front, wheeled up, and suddenly striking the ground, jerked him from his seat—one wheel passing over him, and breaking his leg. Conveyed to the General Hospital.

August 1st, 1872.—A horse and truck laden with pig iron fell from the Ramp opposite the Custom House to the wharf—horse injured, truck broken to pieces.

A man on board the barge *May*, lying in the Canal Basin, lay down on the deck to sleep, arose about midnight, and, partially asleep, walked into the Canal—saved by the captain.

August 7th, 1872.—Horse crossing Wellington Bridge, came in collision with a horse and truck—horse had a leg broken, and had to be shot.

Horse and cart fell into the River at Victoria Pier—saved by captain and men, steamer *Terrebone*.

August 8th, 1872.—A man fell down in a fit on Shipping Wharf. Conveyed to General Hospital.

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August 9th, 1872.—Seaman of barque *Emaives*, while unloading zinc, was struck by a tub filled therewith, and precipitated into the hold—was severely injured, and conveyed to the General Hospital.

August 12th, 1872.—A man while hoisting the gangway on to the ship *Lake Michigan* was jammed against the mast—was severely injured, and carried to his home.

August 18th, 1872.—A man of propellor *City of Montreal*, lying in the Canal basin, fell into the hold—had two of his ribs broken, and otherwise seriously injured—conveyed on a stretcher to General Hospital.

August 19th, 1872.—A man fell from the Revetment Wall to the wharf—was severely injured. Carried to General Hospital.

August 20th, 1872.—A man fell down in a fit of apoplexy on the Shipping Wharf, his head striking an iron rail of the railroad track. Removed to the General Hospital.

Mate of the barque *Helen Marion*, while in the act of loading a revolver on board, it accidently went off, and shot the cook and steward dead. Inquest held, verdict, accidental deaths.

August 22nd, 1872.—Seaman on board the barge *Jean Baptiste* had a difficulty with the captain of the barge *Caralief*, who struck him with a stick of firewood, and rolled him off the barge into the Canal, where he was drowned. Inquest held, and the captain discharged from custody.

August 26th, 1872—A seaman of the barque *Fanny M. Carrill* returning to his vessel at 2 a. m., fell overboard, and was drowned before he could be rescued.

A man working on board the steamer *Hector* fell down the hatchway, and was severely injured—taken to the General Hospital.

August 29th, 1872.—Two men belonging to the steamship *Manitoban*, standing on a plank painting the vessel, the plank snapped in the centre—one saved himself, the other was precipitated into the water and drowned before assistance could reach him.

September 3rd, 1872.—A boy employed on the barque *Eva*, fell down the hatchway—was dangerously injured, and conveyed to the General Hospital.

September 4th, 1872.—Steamship *Greenland* at Allan's Wharf, laden with a general cargo, caught fire, supposed to be from the coal near the pipe. It was got under several times, but again lit up, and not completely extinguished until next morning. Reserve out for protection, &c.

September 17th, 1872.—A man employed unloading the steamship *Memphis*, was struck by a plate of glass and precipitated into the hold, sustaining severe injuries. Conveyed to the General Hospital.

September 21st, 1872.—A man working on board steamship *Newbiggin* suddenly dropped dead. Inquest.

A jar of vitriol burst on Canal Wharf, setting fire to the flooring of the shed. Extinguished.

A man going down the Ramp to the wharf, fell down in a fit. Dr. Thorn, of the steamship *Sweden* attended to him, and afterwards was removed to the Express Hotel.

A boatman of the American barge *Princess*, was stabbed by another bargeman, who escaped. Man recovered.

September 25th, 1872.—A carter got jammed between the wheel of a truck and a barrel on the wharf, and had his leg broken. Conveyed to his residence.

The G. T. Locomotive ran off the track, foot of Grey Nun Street, breaking in the side of the shed of Mail Line Co. Fortunately no one injured.

October 1st, 1872.—A horse ran away on the Shipping Wharf, and striking against the shaft of a truck, was instantly killed.

October 8th, 1872.—A fatal accident occurred on board steamer *Georgia*, by bursting of a cannon at Sorel, evening previous, by which one man was instantly killed, and two wounded. Coroner held an inquest.

October 19th, 1872.—A man was found dead this morning. Coroner notified, who held an inquest.

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October 23rd, 1872.—Steamer *Pictou*, when coming down the Lachine Canal, ran against Cote St. Paul lock, and broke it to pieces.

October 25th, 1872.—The barge *Elizabeth*, lying at the Military Wharf, was struck by tow boat *Boston*, and sunk.

November 2nd, 1872.—The steamer *Montreal* was leaving for Quebec; a man who had got on board to see friends off, in attempting to jump on shore, fell into the River. He was lifted on board by means of a life buoy, and again attempted to land—was prevented by the passengers, and carried off.

A man found lying on the wharf with his leg broken, having fallen over the Ramp. Conveyed to General Hospital.

November 5th, 1872.—A man found lying in a fit on wharf was conveyed to his residence.

November 6th, 1872.—A seaman who had fallen into the Metcalf Basin, was brought to the Station, where he remained all night. The following morning, complaining of being very ill, was sent to the General Hospital; refused admittance on the ground that he had been drinking—was taken before the Police Magistrate, committed to gaol at his own request, in order to receive medical attendance, but died there shortly after.

November 7th, 1872.—A youth attending a donkey engine on the wharf, was caught by the machinery, and knee severely hurt. Taken to his home.

January 3rd, 1873.—A man, a native of La Prairie, died suddenly on the wharf. The Coroner held an inquest.

April 28th, 1873.—A man reported that he found his wife dead beside him. Coroner's inquest.

May 3rd, 1873.—Horse and truck fell into Canal Basin; the horse was drowned.

May 6th, 1873.—Horse and truck fell over the Revetment Wall, on being drawn down the Ramp. Truck smashed.

May 9th, 1873.—Horse and truck when descending the Ramp opposite Custom House, fell over on to the wharf, and injured.

May 11th, 1873.—St. Lambert ferry boat, coming to her berth, struck the ship *Abeona*, lying at Island Wharf, badly breaking her paddle box.

Mate of ship *Lake Ontario* fell from the Revetment Wall to the wharf. Arm badly hurt, and received a severe cut on the head. Attended by the doctor of the steamship *Texas*, who ordered his removal to the General Hospital.

May 14th, 1873.—As the ship *Lake Michigan* was being swung round to her berth, she struck the steamer *Quebec*, breaking her chain and hawser.

A man fell from the Revetment Wall to the wharf. Taken up insensible, and carried on a stretcher to General Hospital, where he died during the night.

A horse and truck fell into the Canal Basin, but were rescued with the aid of dockmaster and others.

May 15th, 1873.—A horse, when being taken on board a steamer in the Canal, fell therein from the gangway—was rescued.

May 23rd, 1873.—A horse and truck laden with pig iron fell into the Canal basin. Horse was drowned.

A man working on board the barque *Euclid*, fell into the hold, was badly hurt, and conveyed to the General Hospital.

May 30th, 1873.—As the steamer *St. Lawrence* was coming into the Canal Basin, she ran into and sank the barge *H. F. Barrel*. A woman on board had scarcely time to jump ere the barge sank.

A horse and truck being left for a few minutes, the former went to take a drink, fell into the river, and was drowned.

June 7th, 1873.—A number of men employed raising the barge *H. F. Barrel*. A plank used on the capstan broke, injuring two men very badly. Conveyed to the General Hospital.

June 11th, 1872.—Horse and cart drawing sand from a barge, was struck by the G. T. locomotive, and the horse killed.

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A man fell from the Revetment Wall opposite to the Custom House wharf. Taken up insensible, and carried to the General Hospital.

June 13th, 1873.—Horse and cart fell into the river at Military Wharf. Former drowned.

A horse and express waggon descending the Ramp to the wharf, fell over on to wharf, injuring the driver.

June 14th, 1873.—The carpenter of the ship *Lautona* fell from the deck into the hold and severely injured. Conveyed to the General Hospital.

June 19.—Steward of steamship *Moravian* fell down the hatchway into the hold, knocked out all his front teeth, and receiving some severe cuts on the head. Attended by the surgeon of the ship.

June 23.—Team of horses collided with a coal cart on Canal Wharf, the cart was tossed over on to the deck of an American barge, breaking the cabin window, &c. No one injured.

A laden horse and wagon ran away on the wharf, the driver thrown off and injured. Conveyed to his residence.

It will be seen that a very great number of accidents occur in connection with the Ramp and Revetment walls.

The number of persons arrested was eight hundred and thirty nine, being the very great increase of two hundred and two over that of last Report. Of these cases two were for murder; and it is to be lamented that the principal increase is that of drunkenness and its attendant results.

There has been a decrease in the number of persons temporarily sheltered and protected.

The cases of drowning have been less frequent, and fewer accidents of this kind have to be recorded. The number drowned was twenty-three, including one case of suicide, and thirty-one persons were saved from a watery grave.

The synopsis of the Report of Current Events renders it unnecessary as heretofore to give a general account of the proceedings of the Force. The Return showing the number of prisoners and the causes of arrest will at once prove the energy and activity of all employed.

There has been a slight decrease in the desertion of seamen, but on the other hand it has required the utmost vigilence to protect them from the influence of the parties designated as crimps. Fourteen of these individuals have been arrested, being a majority in favor of the present year of *eleven*. I have again to reiterate that the determination of the Crown Prosecutor, Mr. Schiller, and the Police Magistrate, Mr. Brehault to crush out by every legal means this intolerant evil, has resulted up to the present time in rendering it dangerous to those employed to carry on their nefarious schemes. Certain and speedy punishment is sure to follow conviction.

The question of the total inadaptibility of the present Station, (of which the Department is aware) is again respectfully submitted. The present landlord, notwithstanding numerous demands and as many promises, has failed to make the repairs required, and, from reasons already before you, it is absolutely unhealthy to inhabit either the guard room or the two cells.

It is difficult, except at a large rent, to obtain a suitable place, and owners naturally object to make alterations requisite for the purposes intended.

It is matter for your consideration whether the building of a proper Station on the government ground adjoining the river would not be a good investment, and prove in the long run the most economical.

With the present rapid growth of trade and the continued extension of the docks, wharves, &c., an increase to the Force is but a question of time. They are unable from their limited number to afford the aid and protection the public requirements demand, and daily their incapacity from this cause becomes more apparent.

Amongst other of their duties is the attending the arrival and departure of steamers, passenger and market boats, the Coroner at inquests, to frequently accompany

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captains and officers of ships beyond the city limits, to Lachine and other places, in persuit of deserted seamen, a very large number of whom have been arrested this year.

In many instances when taken up for desertion or drunkenness during the night, and their vessels sailing next morning, the seamen are sent on board at the hour requested by the Captain, (generally the last moment), and the Police remain alongside until the vessel is in the stream, to prevent their returning to shore.

The usual good conduct of the officers and men has been to me a source of great satisfaction, and it is but just to add that the credit is in a great measure due to the example set by Chief McLaughlin, whose long experience in the service, together with his zealous endeavour to have his Force make up in efficiency what they lack in numbers.

In conclusion, permit me the gratifying pleasure of repeating my annual hope that you will accept my thanks for the courteous amenities of office ever extended, and the equally prompt attention to every subject matter submitted.

CHAS. J. COURSOL,
Commissioner Dominion Police.

WILLIAM SMITH, Esquire,
Dep. Minister Marine & Fisheries, Ottawa.

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RETURN, shewing the number of Prisoners arrested by the Montreal Water Police, for the fiscal year ended 30th June, 1873.

	Murder.	Shooting with intent to murder.	Breaking into an office.	Breaking into a Grand Trunk Car.	Carrying deadly weapons.	Cutting and wounding.	Assault and Battery.	Assaulting and resisting the Police.	Obtaining goods by false pretences.	Attempting to set fire to a house.	Carters impeding on the wharves.	Drunk.	Drunk and disorderly.	Drunk and disorderly on board ship.	Sailors deserting their ships.	Sailors refusing duty on board ships.	Sailors assaulting their captains and officers.	Sailors absent from ship without leave.	Crimping sailors.	Sailors stealing the ship's cargo.	Sailor drunk and attempting to stab his captain.	Larceny on the wharves.	Fighting on the wharves.	Vagrancy.	Attempt to commit suicide.	Cruelty to animals.	Carters furious driving.	Bathing opposite the City.	Insanity.	Protection.	Total.
July, 1872	..	....	....	....	....	2	2	3	...	....	....	41	10	....	8	11	.....	4	4	....	.....	6	1	4	....	..	...	1	..	10	107
August	..	....	...	....	...	1	2	4	....	....	....	46	8	7	26	1	3	2	7	7	.....	10	....	10	....	....	....	....	..	5	148
September	1	....	2	....	....	1	3	3	....	....	1	25	11	....	16	5	1	5	..	3	1	4	....	2	1	..	....	....	1	14	98
October	1	..	....	....	1	....	2	2	1	....	1	24	7	6	16	3	3	5	..	....	.....	14	4	3	....	..	....	....	1	13	114
November	..	....	....	....	....	....	6	2	....	....	....	18	1	3	3	2	3	1	..	1	.....	8	2	..	1	1	1	....	..	15	74
December	..	....	....	....	....	....	..	....	....	....	....	....	1	....	..	.....	.....	....	....	....	.....	....	....	..	....	....	....	....	..	17	18
January, 1873	..	....	....	....	....	....	..	....	....	....	....	1	1	....	..	....	.....	....	....	....	.....	....	....	..	....	....	....	....	..	6	8
February	..	....	....	....	....	....	..	....	....	....	....	1	....	....	....	....	.....	....	....	....	.....	....	....	..	....	....	....	....	..	9	10
March	..	....	....	....	....	....	..	....	....	....	....	5	....	....	....	....	.....	....	....	....	.....	....	....	..	....	....	....	....	..	13	18
April	..	....	....	....	....	....	..	....	....	....	....	3	1	....	....	....	.....	....	....	....	.....	2	....	..	....	....	....	....	..	23	29
May	..	....	....	1	....	....	5	1	....	2	1	18	5	....	18	3	1	1	1	....	.....	3	4	5	....	1	....	....	1	12	83
June	..	1	....	....	1	....	5	5	....	....	1	30	15	8	18	4	3	9	2	..	.....	3	4	..	....	..	....	12	..	11	132
	2	1	2	1	2	4	39	20	1	2	4	212	66	24	105	29	14	27	14	11	1	50	15	24	2	2	1	13	3	148	839

MONTREAL, 28th August, 1873.

(Signed) JOHN McLAUGHLIN,

Chief Constable, Montreal Water Police.

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APPENDIX No. 22.

REPORT OF THE CHIEF OF THE QUEBEC RIVER POLICE, FOR THE FISCAL YEAR ENDED THE 30TH JUNE, 1873.

SIR,—I have the honor to submit my Annual Report as Chief of the Quebec River Police, for the fiscal year ended 30th June, 1873.

Appended to the Report is a statement giving the number of persons arrested by the River Police, the various offences committed by those persons, and their nationality.

On the 1st of May the River Police were sworn for duty, the Force being then increased by fourteen men, and composed of the following officers and men :

One Chief, who is also Shipping-master for the port and whose pay is	$1,200·00	per annum
One Assistant Chief	2·40	per day.
One Steersman	1·90	„
Five Coxswains	1·80	„
Thirty-eight Constables	1·50	„
One Engineer	50·00	per month.
One Assistant Engineer	40·00	„

One of the Constables is employed in the Shipping Office as a Detective.

The steam yacht during the day performs nearly two-thirds of the duty on the river. The boats have each a crew of one coxswain and six men ; the crew of the steam yacht take their turn of night duty in one of the boats, thus keeping a constant patrol on the river during the night from 5.30 p.m. until 5.30 a.m. the following morning. Crimps now very seldom go out in their boats to board ships, as they have a very slight chance ts escape, considering the length of the harbour.

The Police execute all warrants on board ships and on land both sides of the river, when required. They also go in search of timber, boats, and other articles lost or stolen from ships, booms, or rafts ; and when found, the steam yacht generally take those back for to the Police Dock.

The Harbour-master or his assistant, when required, is furnished with a boat or the steam yacht. A van has been kindly furnished for the conveyance of prisonerr from the police office to the gaol, and again from gaol, either to the police office or to the river police station, that they may be put on board their ships when ready for sea, thus relieving the police from a responsible and toilsome duty. Now, two constables accompany the police van with six or seven prisoners in it, instead of a constable with each prisoner. The gaol is nearly two miles from the police station.

Notwithstanding the falling off in the number of ships from sea, the arrests of seamen for desertion and other offences have considerably increased.

Twenty crimps and their runners have been arrested and prosecuted for the following offences :—going on board ships without permission, loitering alongside ships, aiding and assisting to desert, and harboring seamen who had deserted.

The practice of crimps and their runners going on board ships armed with revolvers, has now, through the vigilance of the police, been discontinued.

I have, &c.,

R. H. RUSSELL,
Chief, River Police.

William Smith, Esq.,
Deputy of Minister of Marine and Fisheries, Ottawa.

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Statement giving the number of persons arrested by the Quebec Water Police, the various offences committed by those persons, and their nationality.

Desertion	93
Absence without leave	149
Refusal to perform duty	94
Refusal to proceed to sea	3
Neglecting to join vessel	39
Warrants for assaults	27
Assaults by captains on their crew	2
Assaults by chief mates on crew	5
Captains assaulted by crew	1
Chief mates assaulted by crew	5
Drunk and fighting on board	24
Drunk on the wharves and streets	50
Thefts on board ship	8
Insane	2
Military desertion, "B" Battery, Dominion Artillery	1
Crimps or their runners going on board ships without permission	9
Crimps or their runners loitering alongside ships	6
Harboring seamen who had deserted	3
Impeding passengers in the street	3
Protection for the night	20
Crimps aiding and assisting seamen to desert	2
Total	546

Nationality.

England	152
Ireland	156
Scotland	72
Wales	17
Norway	34
Sweden	14
France	13
Denmark	9
Malta	2
Germany	10
Nova Scotia	2
United States	20
Canada	2
Spain	21
Russia	6
Jersey	3
New Brunswick	1
Newfoundland	3
Isle of Man	1
Austria	3
Italy	2
Jamaica	1
Chili	2
Total	546

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APPENDIX No. 23.

STATEMENT of Expenditure on Account of Harbour Police, Montreal and Quebec, for the Fiscal Year, ended 30th, June, 1873.

MONTREAL.	$ cts.	$ cts.
John McLaughlin, salary as Chief, from 1st June, 1872, to 30th June, 1873	1,185 00	
C. J. Coursol, balance of pay list for May, 1872	642 40	
do Pay list of men from 1st June, 1872, to 30th June, 1873	10,081 72	
do Wages and contingent expenses of supernumeraries employed to replace men ordered to Quebec to assist in the prevention of crimping, &c., part of June and July, 1872	494 95	
D. Brunet, boots	153 00	
M'Iver & Co., caps and gloves	136 50	
J. D. Anderson, pants and overcoats	294 00	
Boon & Woodworth, serge	12 00	
Robert Hendry, badges	25 75	
H. Morgan & Co., summer clothing	291 00	
W. McKerness, hats	10 00	
J. Henderson & Co., hats	5 00	
O. McGaury, office fixings	21 00	
N. Lefebre, clock	8 00	
M. Barbeau, batons	10 50	
Gas Co., gas bill	72 72	
Montreal Post Office, postages	55 69	
Renaud & Gariepy, room paper	7 13	
A. Ramsay & Son, paint, &c	8 35	
J. Parslow, stationery	14 15	
Dawson Bros., do	12 75	
J. Starke & Co., printing	14 00	
Montreal Water Works, water tax	28 30	
John Kelly, firewood	102 85	
J. C. Garrault, straw	5 76	
J. McDonald, iron drag	2 00	
G. Bury, 12 months' rent station	360 00	
Daily and *Weekly Star*, advertising	9 00	
Montreal Herald, subscription	20 00	
Toronto Leader, do	7 50	
Northern Journal do	2 00	
Daily Mail, do	11 00	
Quebec Journal, do	9 00	
Morning Chronicle, do	6 00	
Daily News, advertising	9 08	
Canadian Illustrated News, Subscription	8 00	
La Minerve do	12 22	
W. D. B. James, coal	55 87	
Warrington & Co., plumbing	14 55	
Montreal Telegraph Co., telegraphs	22 57	
Dominion Telegraph Co., telegraphs	7 90	
J. Gardry, cartage	5 00	
C. Nourie, cutting wood	3 00	
Courrier des Etat Unis, subscription	9 50	
Ottawa Citizen do	10 00	
Montreal Herald do	6 00	
Gardener's Monthly do	4 00	
La National do	6 75	
John Lovell, Directory	4 00	
John McLaughlan, meals for destitute persons, and other petty expenses of the station	156 41	
		$14,453 87

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, September, 1873.

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STATEMENT of Expenditure on Account of Harbour Police, Montreal and Quebec, for the Fiscal Year ended 30th June, 1873—*Continued.*

QUEBEC.	$ cts.	$ cts.
R. H. Russell, 12 months' salary as chief of Police and shipping master	1,200 00	
A. Parker do do Clerk to do	800 00	
J. U. Gregory, pay list of men	13,169 45	
J. Cunningham, provisions, &c	34 90	
P. Couette, boots	15 00	
L. Gagne, repairs	107 91	
J. Peters, lumber	92 03	
Hamel & Freres, clothing	808 47	
L. Guerard, repairing benches	3 00	
W. C. Adams, coals	175 00	
Carrier, Lane & Co., stove	5 50	
J. M Tardivel, painting	25 00	
N. Talbert, grate bars	34 50	
Fullerton & Alexander, repairs to steamer	238 61	
Watson & Jarvis, canvas	18 70	
Crawford & Son, coals	80 00	
L. Arel, tallow	156 00	
G. T. Phillips, repairs to steamer	178 57	
G. Bissett, repairs to steamer	3 83	
F. O. Vallerand, supplies	11 43	
C. Vien, towage	8 00	
Dinning & Webster, cotton waste	11 20	
J. Giblin, coal	304 00	
J. Lane, lumber	14 20	
J. Marmen, firewood, &c	61 12	
J. J. Foote, advertising *Chronicle*	6 00	
J. Lovell, directory	12 00	
J. O. Dowd, services	62 00	
J. Bell, wintering police yacht	15 00	
J. U. Gregory, gratuity to men for month of May	68 20	
S. J. Shaw, engine packing	51 12	
Glover, Fry & Co., clothing	69 45	
Middleton & Dawson, stationery	19 58	
Tweedell & Campbell, repairs	50 62	
Richardson & Dawson, leather	11 27	
Audet & Robitaille, rope, &c	95 14	
J. Berrigan, carting snow	24 00	
R. H. Russell, petty disbursements	159 20	
		18,200 00

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, September, 1873.

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STATEMENT of Receipts of Harbour Police Dues collected at the Ports of Montreal and Quebec, for the Fiscal Year ended 30th June, 1873.

	$ cts.	$ cts.
MONTREAL.		
Receipts for quarter ended 30th September, 1872	3,138 42	
do do 31st December, 1872	1,584 12	
do do 30th June, 1873	1,353 00	
		6,075 54
QUEBEC.		
Receipts for quarter ended 30th September, 1872	9,173 39	
do do 31st December, 1872	3,298 67	
do do 30th June, 1873	8,070 90	20,542 96
		26,618 50

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, September, 1873.

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APPENDIX No. 24.

STATEMENT of Amount of Collections and Expenditure on Account of Harbour Improvements, collected at the undermentioned ports, at which Tonnage Dues have been imposed by Proclamation, for the fiscal year ended 30th June, 1873

	No. of ships.	No. of Tons.	Amount.	Amount.
Quebec.			$ cts.	$ cts.
Hopes Harbour	22	782	78 20	
Amherst	41	1,414	141 40	
Gaspé	11	584	58 40	
	74	2,780	278 00	
				278 00
New Brunswick.				
Bathurst	52	8,198	819 80	
Richibucto	99	18,789	1,878 90	
	151	26,987	2,698 70	2,698 70
				2,976 70

EXPENDITURE on Account of Harbour Improvements, for the fiscal year ended 30th June, 1873.

	$ cts.	$ cts.
Richibucto	3,125 70	
Amherst	4,783 63	
		7,909 33
James Neilson, in aid of a steam tug on Miramichi River		2,000 00
		9,909 33

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APPENDIX No. 25.

REPORT ON THE MONTREAL OBSERVATORY FOR THE FISCAL YEAR ENDED 30TH JUNE, 1873.

MONTREAL OBSERVATORY, 1st Sept., 1873.

To the Honorable PETER MITCHELL,
Minister of Marine and Fisheries, Ottawa.

SIR.—I have the honor to report for your information, upon the work done at this Observatory during the fiscal year ending 30th June, 1873.

The former report which I had the honor to transmit, and which was published in the appendix to your annual report, No. 17, page 186, extended to the 30th June, 1872. The table of observations now enclosed, embraces the two half-yearly reports up to the said date.

The table contains the observations in a reduced and condensed form, of the atmospheric pressure; the variations of temperature, illustrating the climatic changes occurring here, the direction and velocity of the wind, and the amount of cloudiness.

At the request of the Honorable the Postmaster General, time is transmitted daily (Sundays excepted) to Ottawa, for the use of the Government offices as heretofore.

The *winding up, correcting, and rating*, of the ships' chronometers, still form an important item in the work of the Observatory,—nineteen have, up to this date, been sent up.

The usual tri-daily observations are still continued on atmospheric pressure, temperature of the air, humidity, rain, snow, aurora, ozone, and other phenomena. Copies are regularly transmitted to the Central Observatory at Toronto, which is still under the efficient charge of Professor Kingston.

The Observatory is now furnished with a new and complete set of standard instruments, obtained from the Meterological Office in London, and verified at the Kew Observatory.

The *Signal Drum* is erected in full view of the shipping in port, and also at the entrance of the Lachine Canal. The *hoisting and lowering* of the drum is placed under the kind charge of the Fire Alarm Telegraph operators, and is connected by magnetic telegraph with this Observatory, so that no time is lost upon the receipt of the *warning telegram* from the Central Observatory at Toronto.

The *Thermometer House* for observations on temperature, seems, in its construction, to answer fully the uses for which it was designed.

This Observatory is now connected with several stations in the Dominion, and through the Central Observatory at Toronto, with the *Signal Office* Department at Washington. Tri-daily signals are forwarded to Professor Kingston, at 7.49 a.m.; 4.49 p.m., and 11.14 p.m., and he has undertaken to furnish returns from the several stations in the Dominion, which are daily published in the *Montreal Gazette*, for the information of the public. These reports are all forwarded by the Montreal Telegraph Company.

I trust the work done here, although it may appear somewhat small, is not the less efficient, and is contributing its quota to the advancement of meteorological science, which now forms so important an item in the progress of commerce and agriculture.

Before closing, I may be permitted to bear testimony to the kind, prompt and efficient action at all times, of my esteemed friend, Professor Kingston.

I have the honor to be, Sir,
Your most obedient servant,
CHARLES SMALLWOOD, M.D., L.L.D., D.C.L.

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TABLE OF OBSERVATIONS.

1872-73.—Months.	Barometer corrected and at 32° Fahrenheit.				Temperature, Fahrenheit.										Wind.		Rain in Inches.		Snow in Inches.		Clouds.
	Monthly Mean.	Highest.	Lowest.	Monthly Range.	Monthly Mean.	Mean Maximum.	Mean Maximum.	Monthly Range.	Highest.		Lowest.		Warmest Day.		Coldest Day.		Most Prevalent.	Mean velocity in miles per hour.	Number of days.	Amount.	Number of days.	Amount.	Extent in 10ths.
									Range.	Date.	Range.	Date.	Date.	Mean Temperature.	Date.	Mean Temperature.							
					°	°	°	°	°		°			°		°							
July	29·914	30·217	29·650	0·567	71·97	80·50	65·98	38·5	93·8	16th.	55·3	28th.	16th.	82·7	28th.	59·0	W.	5·12	14	3·430	.....	.....	0·32
August	30·019	·321	·648	·773	72·65	83·64	65·07	43·0	94·0	9th.	51·0	31st.	9th.	81·7	31st.	56·7	W.	5·07	16	3·320	.....	.....	0·29
September	29·992	·294	·590	·704	62·61	73·14	53·03	38·4	83·6	25th.	45·2	21st.	7th.	72·0	28th.	56·0	W.	5·01	20	6·430	.....	.....	0·40
October	30·187	·621	·390	1·231	47·48	56·55	40·86	45·9	77·0	1st.	31·1	29th.	6th.	64·6	31st.	41·9	W.	4·51	17	6·154	2	1spp	0·40
November	29·974	·360	·175	1·185	34·42	39·32	29·30	41·3	52·4	5th.	11·1	21st.	6th.	44·9	30th.	13·5	W.	4·53	6	2·912	10	10·63	0·68
December	29·987	·542	·424	1·118	13·84	19·54	0·97	53·6	35·8	1st.	—17·8	25th.	3rd.	32·0	25th.	—8·4	W.	3·96	2	1spp	20	43·33	0·56
January	29·984	·626	·562	1·264	14·80	20·02	7·89	51·6	41·1	16th.	—15·0	29th.	16th.	38·0	29th.	—7·5	W.	4·94	5	1·068	18	41·30	0·54
February	29·871	·506	·310	1·196	18·85	26·08	9·41	54·4	44·1	6th.	—10·3	2nd.	6th.	34·2	2nd.	8·1	W.	5·70	2	0·092	9	16·61	0·39
March	29·792	·527	28·800	1·727	28·64	35·70	21·23	40·9	45·3	14th.	4·3	24th.	14th.	35·7	24th.	15·6	W.	6·01	5	1·786	15	33·49	0·51
April	29·868	·269	29·379	0·990	42·08	49·35	34·27	41·6	71·2	30th.	29·6	21st.	30th.	56·7	7th.	33·5	W.	4·33	14	3·017	1	1spp	0·58
May	29·970	·480	·389	1·091	57·18	66·04	46·00	45·9	80·7	27th.	34·8	4th.	27th.	70·3	3rd.	43·0	W.	5·38	17	1·421	3	1spp	0·38
June	29·909	·376	·420	0·956	67·01	74·88	56·28	37·2	85·2	27th.	48·0	1st.	27th.	75·3	2nd.	60·9	W.	4·50	13	3·022	.....	.....	0·20

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APPENDIX No. 26.

OBSERVATORY, QUEBEC, August 20th, 1873.

SIR,—In submitting my Report of the Quebec Observatory for the year ending June 30th, 1873, I have to state that "Time" has been given to the shipping, as in former years, and I am happy to say that many captains of the large fleet of steam ships that arrive and leave here, have expressed to me the value and convenience of "Greenwich Time" being actually given by dropping a "Time Ball."

In consequence of the old house having been pulled down, preparatory to building a new one, I had to dismount the "Equatorial" and discontinue my work in "Celestial Photography," an art in which I have been so successful, that I have had my sun pictures acknowledged to be extremely beautiful.

I believe that Mr. Rutherford, of New York, stands higher in the art, but when the new house is finished, and I again get my Equatorial mounted, with the beautiful climate that we have for photography, I hope to put Mr. Rutherford in the second place.

This Observatory is working in connection with Professor Kingston, of Toronto, in Meteorology, and the observations sent three times a day.

A mast has been erected on the Laval College, on which a "Drum" will be hoisted when advised from Toronto, that a storm will probably pass here, and although forecasts of the weather are to some degree uncertain at present, still when more experience is gained, the "Storm Signal" will be the means of saving much valuable property and many lives.

I trust that early in spring the building will be ready, so that all the observations will be taken at one place, and that Astronomy, Meteorology, and Celestial Photography will be successfully attended to. I enclose a list of expenses for the year.

I have the honor to be, Sir,

Your obedient servant,

E. D. ASHE,
Director.

To WM. SMITH, Esq.,
Deputy of the Minister of Marine and Fisheries.

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STATEMENT of Expenditure on account of Quebec Observatory, for fiscal year ended 30th June, 1873.

E. D. Ashe, 12 months' salary as Director	$1,402·64
J. Heatley do Assistant	600·00
E. D. Ashe, wages of laborers	106·50
do postage stamps, &c.	40·85
J. J. Foote, advertising	50·00
Middleton and Dawson, stationery	27·57
J. Robitaille, wood	36·25
C. Pevenely, oil, &c	18·30
E. Pope, work on telegraph line	7·50
S. J. Shaw, rent of house	83·00
do locks, nails, &c.	9·80
J. L. Jones, collodion	2·80
P. Poulin & Son, lens, &c.	1·75
R. McLeod, chemicals	2·45
Woodly & Co., iron pipe, &c	7.59
J. McKenzie, mason work	3·00
	2,400·00

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, September, 1873.

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APPENDIX No. 27.

THIRD REPORT

OF THE

METEOROLOGICAL OFFICE OF THE DOMINION OF CANADA.

By G. T. Kingston, M.A., Superintendent.

Presented November, 1873.

The Honorable
Minister of Marine and Fisheries.

Sir,—Before giving an account of the progress of the Meteorological System of the Dominion of Canada, during the last year, I shall describe briefly the objects to be attained by such a system, and the organization employed in carrying them into effect.

OBJECTS OF A METEOROLOGICAL SYSTEM.

1. The collection of meteorological statistics—including the statistics of storms, and their arrangement in forms suitable for the discussion of various physical questions.

2. The combination of the materials collected from numerous places, in a series of years, and the deduction therefrom of the climatic character of the several districts and localities, and the causes of the observed characteristics of each.

3. The prognostication of weather.

AGENCIES EMPLOYED IN CARRYING THESE OBJECTS INTO EFFECT

1. A central meteorological office, with a normal observatory attached to it.

2. A large number of ordinary meteorological stations, from which reports are sent by mail to the central office for compilation.

3. A few well-equipped stations, to which the name of chief stations has been given, where the observations may be sufficiently frequent, continuous and prolonged to furnish data for the computation of the constants which are needed for reducing the observations made at ordinary stations, within their respective districts.

2 and 3 are required for the collection and discussion of meteorological statistics.

For the purpose of making and publishing weather prognostications, the two following agencies are needed :

4. Several observing and reporting telegraph stations, from which reports are made by telegraph to the central office.

5. A much larger number of receiving and publishing telegraph stations, to which the facts or opinions founded upon facts, collected by telegraph at the central office, are sent by telegraph, and then communicated to the neighbourhood by written notices or by signals.

ON THE DUTIES AND MODE OF MAINTAINING THE AGENCIES NAMED ABOVE.

CENTRAL METEOROLOGICAL OFFICE.

The functions of this office are as follows :—

1. To select all stations and observers that receive pecuniary aid from the Government.

2. To exercise by visitation and correspondence a general supervision over all subsidized stations, as well as over all private observers, who may voluntarily place themselves in correspondence with the centre.

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3. To regulate the methods and times of observation; to keep the stations supplied with forms for registration; and to aid all observers in the selection of their instruments.

4. To receive and compile meteorological returns, and to publish them or deductions from them, from time to time.

5. To receive telegraphic weather reports from observing telegraph stations, and to despatch by telegraph to various places throughout the country, either the aggregate of facts so collected, or opinions founded thereon.

Maintenance of the Central Office.

The Central Office should be supported entirely by Dominion funds.

ORDINARY METEOROLOGICAL STATIONS.

This term is applied to stations not being telegraphic stations, at which the observations are not such as are required at chief stations. The Meteorological Office stands to them in much the same relation as the Secretary of a Meteorological Society does to its several members, but with this difference: that whereas members of a Meteorological Society pay an entrance fee and an annual subscription, wherewith all the expenses of the society, including the salary of the secretary, are defrayed; private observers in Canada are relieved from such expenses.

Since it would be as impossible for the State to provide salaries to private meteorologists as to private devotees to other branches of natural science, it is to be hoped that for ordinary meteorological stations, voluntary unpaid labor will be found sufficient in Canada, as it is in other countries.*

Ordinary meteorological stations may be arranged in the following sub-classes, according to the extent of their operations:—

a Stations at which all the ordinary elements are made, at least three times each day.

b Stations where records are kept of the temperature, the direction and velocity of the wind, the amount of rain and snow, and the general state of the weather, with notices of miscellaneous phenomena; the observations being made two or three times each day.

c Stations where records are kept of the amount of rain and snow, with notices of miscellaneous phenomena.

d Stations where notices are made of phenomena, for observing which no instruments are needed, and where records are kept of events connected with the progress of the seasons.

e Stations where no regular record is kept, but where observations with the barometer and other instruments are taken on special occasions, such as during the prevalence of storms or any unusual phenomena.

CHIEF STATIONS.

The primary function of what I have termed chief stations, is to record observations, whereby may be computed the corrections for diurnal and non-periodic variations. These corrections are required, in order that by their aid the comparatively scanty observations made during short periods, at ordinary stations, may be rendered comparable with those taken frequently, and for a long series of years.

To carry out this primary object, the following arrangements are necessary:—

1. The meteorological elements should be recorded by a continuous, automatic process, or by observations, day and night, at equal intervals not exceeding three hours.

2. The observations should be continued for a long series of years, although it is not necessary that they should be taken with the same frequency through all time. It would be sufficient to persevere in the short intervals for five or six years, and afterwards to

*By unpaid labor is to be understood, labor not paid for by the Central Government. Ordinary meteorological stations might very fittingly receive aid from Provincial Governments, as in the Province of Ontario; or from Boards of Trade, Agricultural Societies, or from private liberality.

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pursue for a while a less onerous system, the short intervals being again taken up a few years later.

3. There should be three or more chief stations in each Province; and in each of the outlying Provinces—Nova Scotia, New Brunswick, Manitoba, and British Columbia—one of the superintendents should do the duty of agent for the central office, by giving assistance in forwarding apparatus, register forms, &c. The duties of the superintendent of a chief station will occupy only a small portion of his time; but, in consequence of the distribution of these duties through the day and night, and as a provision in case of his absence from any cause, he ought to have the partial services of two, or at least one, assistant. In order to ensure the regularity essential to these observations, stipends must, of course, be paid to the superintendents and assistants at chief stations, regard being had to the fact that their incomes are derived principally from other sources.

Maintenance of Chief Stations.

When it is desired to plant a chief station in a place where there is no resident who could be easily qualified to undertake the superintendence, and where, consequently, it would be requisite to send and maintain an observer, the station would be supported wholly by Dominion funds; but if, in the locality fixed on there be a good private observer, or an educated person who is willing to become an observer, and who has other means of supporting himself, or an institution supported by Dominion, Provincial, or academical funds, and of which the authorities manifest a readiness to undertake the proposed duty, the service might be secured by the payment of a moderate subsidy. The subsidy granted to any station would depend partly on the amount of work performed there, and partly on the facilities which the superintendent might possess for procuring assistance, and in each case would be a matter of arrangement, without reference to what might be expedient at another station, where the circumstances were different.

If the superintendence be undertaken by an institution, the subsidy ought not to be regarded in the light of a *grant* to the institution *as such*, to be expended as the authorities may think fit, and as constituting a precedent in favour of similar institutions, but as a *trust*, to be expended wholly in carrying on the duties above described.

OBSERVING AND REPORTING TELEGRAPH STATIONS.

The duty of the superintendent of an observing and reporting telegraph station is to telegraph to the central office certain meteorological conditions at regular stated hours, and at extra hours when ordered to do so. As any omissions or delays in sending weather reports would seriously disarrange the whole system, it is requisite to ensure punctuality, by giving a stipend to the superintendent; and to provide for the duty, in the event of the unavoidable absence of the superintendent, small allowances may be made to one or two persons, on condition of acquiring and keeping up an acquaintance with the observations; further remuneration, when their services are actually needed, being paid to them.

Auxiliary to the above, are the *Reserved Telegraph Stations*. At these latter the observations are made at the same absolute time as at the last-named stations, but ordinarily are reported daily by *mail*, and not by telegraph.

Maintenance.

The whole expense of maintaining the reporting stations, as well as of telegraphing their reports to the central office, should be borne by the Dominion.

Valuable aid might be rendered to the machinery of weather telegraphy, if observations at the ordinary telegraph hours (7.25 a.m.; 4.25 p.m.; 10.50 p.m., Toronto time), and sometimes also at intermediate hours, were taken on special occasions, at chief and at ordinary stations, and communicated to Toronto, either by telegraph or by mail. The occasions for taking such observations would be indicated to the observer, either by telegraph from Toronto, or by the presence of a strong wind; a very high or low barom-

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etor, or by other exceptional atmospheric conditions. Contributions of this kind might be easily furnished by those persons to whom the keeping up a continuous meteorological record would be impracticable. It must, however, be clearly understood that such information should never be sent by *telegraph*, unless a special arrangement be made with the Toronto office regarding the facts to be communicated, and the mode of expressing them in the telegram.

RECEIVING AND PUBLISHING TELEGRAPH STATIONS, OR DRUM STATIONS.

Although it will frequently occur that meteorological observations are made at places which receive telegraphic notices from the central office, the receiving stations as such, are not meteorological stations in the ordinary sense, and to fulfil their special function, need not be provided either with instruments or observers.

These stations will differ greatly in the cost and extent of their operations, and will be very numerous—every village and town accessible by wire, on the coasts, and eventually through the country, being included in this class.

It will be necessary to arrange them in the following sub-classes :—

(*a*) Stations to which warning telegrams are despatched occasionally from the central office, and where the whole duty consists in hoisting and lowering a cautionary drum, and in posting weather notices.

(*b*) Stations where, besides occasional warnings, daily probabilities from the central office are received and published.

(*c*) Stations at which are published, from one to three times daily, bulletins more or less extensive, giving detailed statements of the condition of reporting telegraph stations in Canada and the United States.*

Maintenance of Receiving and Publishing Telegraph Stations (a), (b), and (c).

(*a*) Drum stations and stations which are not supplied with drums, but where notices only are posted.

The expenses include the following particulars:—

(1.) Cost of drum and hoisting apparatus.

(2.) An allowance to the person who receives and acknowledges the telegram; hoists the drum, or gets it hoisted; posts the notices, and reports the result to Toronto.

(3.) Cost of telegraphing.

As warning messages are sent occasionally only, the two latter items of expense amount to comparatively little for one drum station.

(*b*) For the publication of daily probabilities, the services of the agent are required every day to interpret the telegrams, and post up the probabilities; and as the telegrams are longer, and are sent *every day*, the expenses on account of telegraphy are very much heavier than at drum stations.

(*c*) When bulletins containing detailed descriptions of weather at several places are transmitted by telegraph to a publishing station, the expenses on account of personal attendance and of telegraphy, are still further increased.

As the very heavy expense of collecting by telegraph, and compiling the data whence warnings, or probabilities, or bulletins are deduced, is borne entirely by the Dominion Government, it seems nothing but reasonable that the localities to which these warnings, &c., are despatched should bear the cost of transmission and publication; but, on the other hand, as serious inconvenience and delay would be entailed by leaving the work to

*A misconception commonly prevails respecting the functions of observing telegraph stations and drum stations. Very many persons suppose that observations at a telegraph station are taken primarily, with a view of forecasting the weather that is likely to prevail at the place of observation, and measure its claim to be an observing telegraph station by the extent of its commerce, and the number of its ships. Meteorological observers should be established, if possible, in large sea-ports, to interpret and supplement by their own observations, the facts or opinions telegraphed to them from the centre; circumstances may also make it expedient, in some cases, to establish at these places stations reporting by telegraph to the centre; but their proper office in the telegraph system is that of drum stations.

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the individual action of the different towns, and as the system will be certainly more effective under an undivided control, it is expedient, on the whole, that the entire expense be undertaken by the Government.

ON THE PROGRESS OF METEOROLOGY IN CANADA.

ORDINARY METEOROLOGICAL STATIONS AND CHIEF STATIONS.

Since the issue of the second annual report in January, 1873, very few additions have been made to the number of the ordinary stations, the attention required by other duties having made it impracticable to press forward this branch of the service. When the collection of meteorological data is dependent, as it necessarily must be in a great measure, on unpaid volunteers, fluctuations in the number and distribution of observers are inevitable, and the data supplied by them must be more or less fragmentary. The evil ensuing from the fragmentary character of the records from some of the ordinary stations may, however, be considerably diminished, if the chief stations are in a thoroughly efficient state, as it is by aid of the corrections deduced from the observations at the chief stations that the irregular and scanty observations continued for a few years, are made comparable in a great degree with those that are continued hourly for a long term of years. These considerations suggest the desirability of building up the chief stations and placing them in a position to do perfectly the work required of them.

WEATHER TELEGRAPHY.

There are now twelve stations within the Dominion, which report by telegraph three times daily to Toronto, and to these another will shortly be added.

There are also two reserve telegraph stations, at which the observations are taken at the regular telegraph hours, and are reported to Toronto every day by mail. The reports are made out in the telegraph cypher, so that in the event of their being suddenly called for by telegraph, no time may be lost in translating them into the proper shape for transmission.

The facts communicated by telegraph and the cypher words, in which, for the sake of brevity and the prevention of error, they are expressed, are almost identical with those used by the signal office at Washington. The regular observations are made three times every day (Sundays and holidays included) at the same absolute time throught the Continent. The hours in Toronto time are 7.25 a.m.; 4.25 p.m.; and 10.50 p.m. Each ordinary message consists of ten words expressing the following facts:—

(1) Name of place of observation.
(2) Day of the month and hour of the day (in one word).
(3) Reading of the barometer, reduced to sea level.
(4) Temperature of the air.
(5) Relative humidity of the air.
(6) Character of weather, and direction of wind (in one word).
(7) Velocity of the wind at the time of observation, in miles per hour.
(8) Kind and extent of upper clouds, and direction of their motion.
(9) Kind and extent of lower clouds.
(10) Depth of rain since previous observation, or the water to which any snow that has fallen is equivalent.

It may be noticed that the words of the telegram express *present* conditions only, and that they give no direct information regarding the weather during the time that has intervened since the preceding observation, excepting in the matter of rain. It would be a great improvement if the telegram could be modified so as to give the following additional information:—

(1) The number of miles travelled by the wind since the previous observation; or better still, the mean and maximum velocity during the interval.
(2) The approximate depth of snow that has fallen, so that it may be known

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whether the so-called rainfall, at present given by the telegram, be truly rain or snow reduced to its rain equivalent.

Of the telegrams from the twelve Canadian stations, those from Winnipeg are first sent to Washington and are thence forwarded to Toronto. Those from the eleven, after examination at Toronto, are despatched to Washington with similar reports from Toronto.

In return for the reports which Canada furnishes, I now receive by telegraph from each of fifteen stations in the United States two reports daily, namely, those of observations at 7.25 a.m.; and 10.50 p.m. All the afternoon reports, as well as the morning and night reports from all the other stations, being furnished, as a temporary expedient, by mail.

From the information thus collected conclusions are drawn regarding coming weather, which are compared with subsequent events.

Hitherto for storm warnings we have been almost entirely dependent on messages from Washington. These have been of great service, but unfortunately, owing to considerable delays in telegraphic transmission between Washington and Toronto, they have sometimes reached us too late to serve the purpose of warnings of coming weather. It is therefore very desirable that we should have the means of receiving by telegraph sufficient materials from the United States to enable us to issue warnings founded on our own independent judgment, and not remain entirely dependent on conclusions drawn at Washington.

The operations of a telegraphic centre are twofold, consisting (1) in the collection of data on which to found prognostications, and (2) in communicating by telegraph to various places either the facts collected, or prognostications founded on them. It has not been thought expedient to telegraph facts in *detail*, excepting to a very limited extent.

Condensed reports of the morning observations at a few stations are sent each day to Halifax and Montreal, where for many months, and till very recently, the expense of telegraphing was borne by residents.

RECEIVING AND PUBLISHING TELEGRAPH STATIONS.

Further on is given a list of thirty-three storm signal stations, at which arrangements have been, or very soon will be, completed for displaying storm drums and posting notices.

The drum in present use at most of the stations is a cylinder, about four feet in diameter, and formed by vertical strips of wood or iron, which are separated by intervals of about two inches. A lantern shewing a white light is usually placed within the drum when it is hoisted at night.

When there is reason to believe that a storm is approaching a storm signal station, a telegram to that effect is despatched from Toronto.

The number of warnings issued in the several months from January 1873, to 31st October, 1873, were as follows:—

Feb.	March	April	May	June to August	Sept.	Oct.	Total.
6	21	23	15	None	38	101	204

The increase in the number of warnings towards the end of the above table, is due in a great measure to the larger number of stations recently organized to receive warnings.

It is a matter of great regret that no telegrams were received from Washington or issued from Toronto to give warning of the disastrous storm of August 24th.

The storm was exceptional in its character, and did not, like the generality of storms, give at western stations any indications of its approach. The regions from which reports would have been most serviceable for prediction were the north eastern portions of the Dominion, where, at that time, Halifax was the only station in telegraphic communication with Toronto—a communication which, owing to the defective state of the line, was unfortunately often interrupted.

Since August, however, a marked improvement has taken place in the telegraphic connections with Halifax. Regular tri-daily reports have been also started from Father

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Point, Cape Rosier, and Chatham; preparations have been made for commencing similar reports immediately from Sydney, C.B., and it is probable that another reporting station will be eventually organized in the north east.

If all these stations had been in full operation on August 23, it is extremely probable that a storm would have been foretold. That they were not in that state of preparation is explained by the fact that up to 30th June, 1873, the whole expenditure for weather telegraphy, including salaries, cost of organizing the stations, telegraphing, etc., did not exceed five thousand dollars ($5,000)!

Had our meterological system been in the same financial position a year ago that it is now, it is not much to assert that the property saved in that storm alone would probably have exceeded many times the whole annual cost of the meteorological service on its present footing.

Meteorological Stations in Correspondence with the Magnetic Observatory, Toronto

CHIEF STATIONS.

Province.	Station.	Superintendent.
Ontario	Woodstock	J. Montgomery, Professor of Natural Sciences, Canadian Literary Institute.
New Brunswick	St. John	G. Murdoch, C.E.
	Fredericton	Dr. Jack, University of New Brunswick.
Nova Scotia	Halifax	Frederick Allison, M.A.
British Columbia	Spence's Bridge	John Murray
Manitoba	Winnipeg	Officer's of St. John's College

REPORTING TELEGRAPH STATIONS.

Station.	Observer.	Station.	Observer.
(3) Fort Garry, Manitoba	James Stewart.	(2) Montreal, Quebec	Dr. Smallwood.
Saugeen, Ontario	Mrs. J. R. Stewart	(4) Quebec, Que.	Capt. Ashe, R.N.
Port Stanley, Ontario	M. Payne.	Father Point, Quebec	D. Lawson.
(1) Stayner, Ontario	R. J. Cole.	Cape Rosier, Quebec	A. Trudeau.
Port Dover, Ontario	H. Morgan.	Chatham, N.B.	[illegible] A. Blair.
Toronto, Ontario	Observatory.	(3) (1) Sydney, N. Scotia	J. C. Hill.
Brockville, Ontario	W. R. Bigg, M.A.	(2) Halifax, N. Scotia	F. Allison, M.A.
Kingston, Ontario	S. Woods, M.A.		

(1) These Stations are fully supplied with Instruments, but, as yet, do not Report by Telegraph; (2) also Chief Station; (3) also First Class Ordinary Stations; (4) also Second Class Ordinary Stations.

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Meteorological Stations in Correspondence with the Magnetic Observatory, Toronto.—*Continued.*

ORDINARY STATIONS.

Station.	Observer.
ONTARIO.	
Class I.	
Ottawa	G. C. Haney.
London, Middlesex	S. Lett, jun., M.D.
Little Current, Algoma	G. B. Abrey, C.E.
Class II.	
Dundass, G.W.R., Wentworth	R. Robertson.
Ingersoll, Oxford	Mrs. A. Eakins.
Glencoe, G.W.R., Middlesex	W. Hayden.
Brampton, G.T.R., Peel	J. Reynolds.
Kincardine, Bruce	DeWitt H. Martyn, M.D.
N. Guillimbury, York	Rev. Canon Ritchie.
Gravenhurst, Muskoka	T. M. Robinson.
Fitzroy Harbor, Carleton	Rev. J. Tait.
†Brockville, Leeds	W. R. Bigg, M.A.
Oshawa, Ontario	C. H. Panton.
Welland, Welland	A. Willett.
Granton, Middlesex	J. Grant.
(*a*) Temiscomang, Nipissing	Rev. J. M. Pian.
Lighthouses at: Point Clark	J. Young.
Lighthouses at: Pellee Island	J. Cummins.
Lighthouses at: Clapperton Island	C. Patton.
Lighthouses at: Pellee Spit	P. McIntyre.
Lighthouses at: Chantry Island	D. McG. Lambert.
Lighthouses at: Nottawasaga Island	G. Collins.
Lighthouses at: Red Horse Rock	J. Buck.
Lighthouses at: Griffith Island	V. C. Hill.
Lighthouses at: Amherstburg	A. Hackett.
Class III.	
Collingwood Simcoe	W. A. Parlane.
Georgina, York	Capt. Sibbald, R.N.
Markham, H. School, York	J. H. Hughes, M.A.
Seaforth, G.T.R., Huron	A. Straiton.
Ailsa Craig, G.T.R., Middlesex	J. Wilson.
Lucan, G.T.R.	F. R. Jennings.
Park Hill, G.T.R.	G. B. Reeve.
Orillia, Simcoe	H. Fitton.
Newmarket, York	W. R. Nason, B.A.
Plattsville, Oxford	R. Treffry.
QUEBEC.	
Class I.	
*Montreal	D. Smallwood.
Huntingdon	Dr. Shirrif.
Class II.	
*Quebec	Capt. Ashe, R.N.
*Cape Rosier	A. Trudeau.

Station.	Observer.
QUEBEC.—*Continued.*	
Class II.- Continued.	
Lighthouses at: Bird Rocks	E. Chapman.
Lighthouses at: Anticosti	E. Pope.
Lighthouses at: Belle Isle	M. Colton.
Lighthouses at: Amour Point	P. Godier.
Class III.	
Danville	H. B. McKenzie.
Convents at: N. D. de Levis	Ladies in Residence.
Convents at: Carleton, Chaleur	,,
Convents at: Chicoutimi	,,
Convents at: Charlesbourg	,,
Convents at: Rivière du Loup	,,
Convents at: Lotbinière	,,
Convents at: Point aux Trembles	,,
NEW BRUNSWICK.	
Class I.	
Bass River, Kings	Rev. J. Fowler.
Bathurst, Gloucester	Hon. J. Ferguson.
Class II.	
Dalhousie, Restigouche	J. Johnson.
Lighthouses at: Grindstone	James Clarke.
Lighthouses at: Lepreau	G. Thomas.
Class III.	
Dorchester, Westmorland	E. V. Tait.
NOVA SCOTIA.	
Class I.	
Glace Bay, Cape Breton	H. Poole, C.E.
Glace Bay, Cape Breton	C. H. Rigby.
Pictou, Pictou	H. A. Bayne.
†Sydney, Cape Breton	T. C. Hill.
Windsor, Hants	Miss Fraser.
Guysborough, Guysborough	S. R. Russell.
Truro	James Little.
Wolville, Kings	Prof. Higgins.
King's College, Windsor	Rev. Canon Hensley, D.D.
Class II.	
Digby, Digby	W. H. Taylor.
Yarmouth, Yarmouth	H. A. Parr.

*Reporting Telegraph Station. (*a*) No Reports have yet been received. †Reserve Telegrap Station.

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Meteorological Stations in Correspondence with the Magnetic Observatory, Toronto.—*Continued.*

ORDINARY STATIONS.—*Continued.*

Station.	Observer.	Station.	Observer.
NOVA SCOTIA.—*Continued.*			
Class II.—Continued.		PRINCE EDWARD ISLAND.	
Lighthouses at:			
Cranberry Island	J. Hanlon.	*Class I.*	
Sand Point	J. Mundell.		
North Canso	G. McRay.		
Annapolis	J. Dakin.	Charlottetown	H. J. Cundall.
Class III.			
Seaforth	Rev. O. McGrindon.		
Beaver Bank	James Grove.		
Cow Bay	C. Archibald.	NEWFOUNDLAND.	
MANITOBA.		*Class I.*	
*Winnipeg	James Stewart.		
		St. John's	J. Delaney.
BRITISH COLUMBIA.		Harbor Grace	A. Munn.
Class I.			
		Class II.	
Spence's Bridge, Thompson River	John Murray.		
Esquimault Harbor	Wm. H. Bevis.	Fogo	James Fitzgerald.

Instruments and books have been supplied to eighteen other Convents in the Diocese of Quebec, from which, as yet, no records have been received.

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Stations which are, or shortly will be, supplied with apparatus for hoisting Storm Drums.

DRUM STATIONS.

Station.	Person in Charge.	Station.	Person in Charge.
Ontario.		**New Brunswick.**	
Collingwood	Captain Bligh.	(1) St. John	G. Murdoch.
(a) Saugeen	Thomas Davis.	St. Andrew	Dr. Gove.
(d) Kincardine	Dr. Martyn.	Point du Chene (Shediac)	J. S. Forster.
Goderich	— Macdonald.	(a) Chatham	G. A. Blair.
(a) Port Stanley	M. Payne.	(c) Bathurst	Hon. J. Ferguson.
(a) Port Dover	H. Morgan.	(d) Dalhousie *	H. A. Johnson.
Hamilton	G. Black.	**Nova Scotia.**	
Toronto	Capt. Kerr.	(1) Halifax	F. Allison.
Port Hope		(c) Pictou	M. Campbell.
Cobourg	H. B. White.	(d) Yarmouth	C. B. Owen.
(a) Kingston	S. Woods.	(b) (c) Sydney	T. C. Hill.
Port Colborne		(c) Cow Bay	C. Archibald.
Port Dalhousie	E. F. Dwyer.	(c) Little Glace Bay	C. H. Rigby.
Quebec.		Port Hastings	P. Grant.
		Liverpool	R. S. Sterns.
(a) (c) Montreal	Dr. Smallwood.	(c) Digby	W. H. Taylor.
(a) (d) Quebec	F. X. Belanger.	**Prince Edward Island.**	
(a) Father Point	D. Lawson.		
* Gaspé Basin	J. Eden.	(c) Charlottetown	H. J. Cundall.

(1) Chief Station; (a) Reporting Telegraph Station; (b) Reserve Telegraph Station; (c) First Class Ordinary Station; (d) Second Class Ordinary Station; (e) Third Class Ordinary Station; * Warnings given by written notices only.

Lighthouses to which Instruments and Register Books have been supplied, but no Returns have, as yet, been received.

Province.	Lighthouses.	Province.	Lighthouses.
Ontario	Snake Island.	New Brunswick	Machias Island.
	Pigeon Island.		Escuminac Point.
	Isle of Coves.		Miscou Island.
	Sulphur Island.	Nova Scotia	Sable Island.
	Christian Island.		Coffin Island.
	Lonely Island.		Beaver Island.
	Red Rock.		Scattari Island.
	St. Ignace.		Wolf Island.
			Seal Island.

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METEOROLOGICAL TABLES.

In order that the Report may include information of as recent a date as possible, the year has been made to terminate with August.

The Tables include temperature and rain-fall only; space forbidding the introduction of other matter, which is reserved for another mode of publication.

Unless otherwise stated, the mean temperatures given in the tables are the arithmetic means of the temperatures observed at 7 a.m., 2 p.m., and 9 p.m.; double weight being given to the latter hour.

At Wolfville, N.S., and Glace Bay, Cape Breton, the morning observations which were taken at 8 a.m. are reduced to 7 a.m., by the application of corrections given by the Halifax table, derived from a series of three years of bi-hourly observations.

At the following places the means in the tables are the arithmetic means of the observations taken as indicated.

At the last nineteen stations, where the combinations of hours have been less favorable for yielding correct monthly means, it has been thought best to give the result as they stand, and to abstain from using corrections that may not be strictly applicable.

Stations.	Time of Observation.
Halifax	Equal intervals of three hours.
St. John's College, Winnipeg	do do
Woodstock, Ontario	do do
Toronto	6 a.m., 8 a.m., 2 p.m., 4 p.m., 10 p.m., midnight.
*St. John, New Brunswick	6 a.m., 2 p.m., 10 p.m.
Sydney, Cape Breton	do

Stations.		Times of Observation from which the means are derived
Ten Ontario High Schools, viz.:—		
Goderich,	Stratford	7 a.m., 1 p.m., 9 p.m.
Barrie,	Windsor	
Simcoe,	Hamilton	
Peterborough,	Belleville	
Pembroke,	Cornwall	
Cape Rosier,	Dundas	8 a.m., 8 p.m.
Brampton,	Glencoe	9 a.m., 9 p.m.
London,	St. John's, N. F.	8 a.m., 2 p.m., 9 p.m.
Charlottetown,	P.E.I	8 a.m., 2 p.m., 10 p.m.
Yarmouth, N. S.—		
February, March, April, 1873		8.30 a.m., 2 p.m., 9 p.m.
May, June, July		8 a.m., 2 p.m., 8 p.m.

I regret that for lack of information on certain details connected with the records furnished by Mr. Bevis, of Esquimault, British Columbia, I have been prevented from embodying his observations in this report.

*At St. John, N. B., bi-hourly readings were taken during a large part of the year. The less perfect combination has been taken for the sake of comparison with former years.

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List of Tables accompanying the Third Annual Report from the Superintendent of the Meteorological Office, to the Minister of Marine and Fisheries.

I. Monthly, quarterly and annual means of temperature at various places in the Dominion of Canada, derived from three or more years.

II. Averages of the highest temperature in each month and year, for various places in the Dominion of Canada, from three or more years, with the absolutely highest temperature in each series.

III. Averages of the lowest temperature in each month and year, for various places in the Dominion of Canada, from three or more years, with the absolutely lowest temperature in each series.

IV. Monthly, quarterly, and annual rain-fall, and the annual depth of rain and snow reduced to water, from three or more years.

V. Mean temperatures of the several months at stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive.

VI. Highest temperature in each month at the several stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive.

VII. Lowest temperature in each month at the several stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive.

VIII. Mean temperature in each quarter and in the year, from September, 1872, to August, 1873, with the highest and lowest temperatures in the year, and the dates of their occurrence.

IX. to XX. Daily mean temperatures at certain stations in the Dominion of Canada.

XXI. Means of daily temperatures at the stations in Tables IX. to XX., collected in five-day periods in the year, September, 1872, to August, 1873, inclusive.

XXII. Percentage of cloud in each month and in the year, at certain stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive.

XXIII. Rain-fall in each month and in the year, at the several stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive; the stations in Ontario and Nova Scotia being divided into districts.

XXIV. Quarterly rain-fall at the several stations, with the fall of snow in each month, and the total precipitation of rain and melted snow, from September, 1872, to August, 1873, inclusive.

XXV. Number of days on which rain fell in each month and in the year, at the several stations given in Table XXIII.

XXVI. Quarterly number of days of rain, with the number of days of snow, during the period September, 1872, to August, 1873, inclusive.

XXVII. Quarterly average depth of rain in the several Provinces, with the average depth of snow in each month and in the year, and the average number of days in the same period.

XXVIII. Average depth of rain in inches for the several Provinces of the Dominion of Canada, from September, 1872, to August, 1873, inclusive, with the average of the number of days of rain-fall in the same period; Ontario and Nova Scotia being divided into districts.

XXIX. Differences between the mean temperatures in Table V., and the average means derived from three or more years, as shewn in Table I. The deviations being marked (+) or (—) according as the means in Table V. are greater or less than the standards with which they are compared.

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TABLE I.—Monthly, Quarterly, and Annual Means of Temperature at various places in the Dominion of Canada, derived from three or more years.

	Monthly Mean Temperature.												Quarterly Mean Temperature.				Year.
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Autumn.	Winter.	Spring.	Summer.	
Ontario.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Goderich	59·5	47·9	35·7	24·7	23·9	23·5	27·3	41·8	51·6	62·9	68·0	66 9	47·7	24·0	40·2	65·9	44·5
Kincardine	60·4	49·8	34·5	21·2	20·5	19·0	26·9	43·0	55·9	67·8	70·9	69·7	48·2	20·2	41·9	69·5	44·9
Stratford	57·0	45·4	34·1	23·4	20·2	21·4	24·9	41·8	52·2	62·8	67·1	65·0	45·5	21·7	39·6	65·0	42·9
Simcoe	59·4	47·7	35·3	24·4	24·0	24·6	29·5	44·5	55·0	66·0	70·7	68·5	47·5	24·3	43·0	68·4	45·8
Windsor	61·8	49·9	36.4	24·5	24·3	25·6	31·1	46·6	56·5	67·8	72·8	70·9	49·4	24·8	44·7	70·2	47·3
Glenoe	57·4	49·9	29·0	19·1	19·7	21·7	27·9	45·4	58·1	66·6	70·5	69·2	45·4	20 2	43·8	68·8	44·5
Woodstock	56·8	46·6	32·0	19·7	18·8	19·7	26·3	41·8	54·1	64·0	67·8	67·6	45·1	19·6	40·7	66·5	42·9
Barrie	59·2	47·3	34·0	21·2	19·5	20·0	26·0	41·2	52·9	64·9	70·4	67·0	46·8	20·2	40·0	67·4	43·6
Stayner	55·7	48·2	31·2	20·2	19·9	18·6	25·2	41·8	52·7	62·6	66·2	65·6	45·1	14·1	39·9	64·8	42·3
N. Gwillimbury	60·4	49·8	34·5	21·2	20·5	19·0	26·9	43·0	55·9	67·8	70·9	69·7	48·2	24·4	41·9	69·5	44·9
Gravenhurst	54·6	44·2	28·0	14·0	12·4	16·0	22·5	37·9	52·9	63·4	67·6	66·5	42·3	23 1	37·8	65·8	40·0
Hamilton	60·5	48·5	36·4	24·7	23·9	24·6	28·8	43·6	53·5	65·8	72·4	69·3	48·5	23·9	42·0	69·2	46·0
Dundas	59.8	49·5	33·3	24·5	22·3	22·6	28·9	45·1	57·7	68·3	71 0	70·1	47·5	18·0	43·9	69·8	46·1
Toronto	58·1	45·9	36·4	25·6	23·1	23·0	29·4	41·1	51·6	61·7	67·4	66·2	46·8	16·8	40·7	65.1	44·1
Peterborough	58·1	44·6	31·4	18·0	17·3	18·8	25·6	41·5	54·8	66·5	70·6	68·5	44·7	19·8	40·6	68·3	43·0
Cornwall	59·4	47 2	32·2	16·7	15·6	18·1	23·9	42·3	54 6	67·0	69·6	68·4	46·3	16·8	40·3	68·3	42·9
Belleville	59·0	46·9	34·1	20·3	18·8	20·4	26·7	42·7	54·0	65·9	70·8	68·2	46·7	19·8	41·1	68·3	44·0
Pembroke	57·1	44·1	29·5	12·3	11·3	12·9	24·0	39·4	53·1	65·7	69·5	67·2	43·6	15·5	38·8	67·5	40·5
Fitzroy Harbour	58·4	47·2	28·9	13·6	10·2	14 5	25·1	44·6	56·1	69·4	71·2	69·4	44·8	16·1	41·9	70·0	43·2
Quebec.																	
Montreal	60·8	47.5	33·6	18·9	16·8	18·6	26·9	43·5	57·2	66·4	72·2	69·8	47·3	18·1	42·5	69·5	44·3
Huntingdon	58·1	49·0	33·7	16·6	12·3	14·7	24·7	44·2	56·3	68·1	69·9	68·5	46·9	14·5	41·7	68·8	43·0
Quebec	57·3	44·4	32·0	15·8	11·4	14·3	24·2	37·6	51·1	63·6	68·4	66·0	44·6	13·8	37·6	66·0	40·5

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New Brunswick.																				
St. John	54·5	45·6	35·7	22·8	18·4	21·4	27·8	38·2	46·7	54·7	59·7	59·5	45·3	20·9	57·5	58·0	40·3			
Bass River	53·8	44·6	31·2	16·7	13·8	14·8	24·9	36·9	46·2	61·7	65·9	63·2	43.2	15·1	36·0	63·6	39·5			
Nova Scotia.																				
Halifax	57·4	48·3	37·8	25·8	22·9	23·7	28·1	38·1	47·4	59·7	63·5	63·3	47·8	24·1	37·9	62·2	43·1			
Glace Bay	56·6	49·7	36·8	27·1	21·6	20·6	26·2	33·8	42·0	54·1	61·9	62·8	44·4	23·1	34·0	60·9	40·6			
Pictou	56·8	47·6	35·2	23·1	20·1	18·5	26·2	36·3	45·3	58·5	64·8	63·2	46·5	20·6	35·9	62·2	41·3			
Sydney	55·0	47·1	36·3	25·9	24·7	21·9	26·2	35·5	43·8	54·2	62·8	62·2	46·1	24·2	35·2	59·7	41·3			

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TABLE II.—Averages of the Highest Temperature in each month and year, for various places in the Dominion of Canada, from three or more years, with the absolutely highest temperature in each series.

	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.	Highest Temperature in the series.
Ontario.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Goderich	81·2	72·3	57·2	44·6	45 1	46·2	52·8	72·8	78·5	86·6	87·0	86·2	89·1	92·4
Kincardine	85·9	71·5	53·2	42·6	44·2	48·7	51·8	69·1	79·5	87·0	87·9	88·2	90·2	94 0
Stratford	80·6	69·7	53·7	44·2	40·0	42·6	49·2	68·4	76·9	84·2	87·0	84·2	88·5	93·5
Simcoe	82.9	74·0	60·1	48·0	48·8	50·8	55·6	73·7	81·9	89·9	90·6	88 6	93·1	98·5
Windsor	89·1	78·6	61·8	48·4	48·9	53·5	58·5	78·6	83·6	92·0	93·6	92·6	96·1	98·8
Woodstock	85·6	73·1	50·9	41·2	47·3	51·2	52·0	77·5	85·5	89·6	89·6	90·9	92·8	93·8
Barrie	89·2	78.1	63·6	45·4	46 7	47·8	55·7	73·6	81·3	87·1	91·6	88·5	93·5	97·2
Stayner	90·1	76·6	55·2	44·1	54·0	45·1	48·0	76·7	84·0	94·7	94·3	91·8	94·5	96·0
N. Gwillimbury	88·8	75·3	54·2	41·0	44·5	49·5	44·7	76 3	82·5	91·7	93·5	89·5	93·5	95·0
Gravenhurst	84 4	70·8	47·8	40·8	39·9	45·3	47·9	69·5	81·7	90·6	91·6	88·8	92·6	94·5
Hamilton	89·0	78·4	62·2	51·1	48·5	51·4	52·4	75·3	83·9	92·7	96·8	94·2	99 0	106·3
Toronto	89·9	68·9	57·8	47·6	43·3	44·4	51·6	66·4	76·1	86·1	89·2	86·4	90·7	99·2
Peterborough	86·8	73·6	56·8	43·9	43·3	43·8	50·5	72·3	83·2	90·5	92·2	91·3	94·2	99·1
Cornwall	87·1	76·6	64·9	45·3	41·3	46·8	53 0	75·3	84·7	89·6	90·4	91·5	94·5	100·2
Belleville	81·3	70·7	55·2	44·9	41·0	42·5	48·4	69·9	78·8	85·9	90·2	86·4	92·1	100·6
Pembroke	84·2	75·4	57·3	40·7	40·9	44·9	55·8	68·9	87·4	93·9	93·8	88·7	95·1	99·9
Fitzroy Harbour	89·5	72·0	45·7	41·0	42·3	43·9	49·5	69·0	86·4	95·2	93·7	91·7	96·7	97·0
Quebec.														
Montreal	84·1	79·9	58·8	44·6	40·7	43·3	52·8	73·8	87·1	89·9	92·3	90·1	95·0	96·1
Huntingdon	83·0	77·7	54·0	45·3	45·0	41·0	54·0	75·0	84·7	93·3	95·7	89·0	93·7	95·0
Quebec	78·9	69·2	46·4	38·8	38·2	37·6	43·7	61·4	81·9	90·2	89·6	82·5	90·6	94·4
New Brunswick.														
St John	70·6	60·6	54·2	44·6	40·8	41·0	45·8	56·8	67·2	73·4	78·6	76·2	79·0	82·0
Bass River	78·5	69·4	56·9	41·3	42·0	39·9	48·0	56·1	77·8	88·0	87·1	85·1	88·6	92·0
Nova Scotia.														
Halifax	81·0	72·4	59·1	48·3	47·4	45·7	52·1	63·6	78·9	83·2	86·1	86·4	88·3	93·5
Glace Bay	76·2	69·4	55·8	48·2	48·2	42·2	47·2	57·0	70·4	80·0	85·9	82·9	86·7	89·5
Pictou	78·7	70·7	59·3	47·8	49·3	44 1	48·3	60·6	73·4	81·2	84·9	83·9	84·9	87·3
Sydney	75.0	69.2	56.9	48.1	48.7	43.3	49.2	57.2	75·4	79·5	83·4	84·0	85·6	89·0

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TABLE III.—Averages of the Lowest Temperature in each month and year for various places in the Dominion of Canada, from three or more years, with the absolutely lowest temperature in each series.

—	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.	Lowest Temperature in the series.
Ontario.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Goderich	36·3	28·8	13·9	−2·9	−1·3	−1·1	2·1	21·6	28·4	39·1	46·4	44·5	−8·8	−12·6
Kincardine	40·2	31·8	16·5	2·2	−6·3	−4·6	3·8	23·7	34·5	43·3	51·1	48·2	−9·7	−12·0
Stratford	31·8	24·3	10·9	−7·6	−8·1	−8·9	−3·6	19·9	29·3	37·9	44·3	39·8	−15·4	−20·0
Simcoe	34·2	27·2	11·0	−10·3	−3·9	−5·7	5·6	25·2	31·1	40·5	47·5	44·4	−13·3	−23·5
Windsor	35·4	25·7	11·9	−7·4	−5·6	−7·9	1·5	23·0	33·4	44·9	48·8	48·3	−14·9	−21·0
Woodstock	29·6	20·2	1·1	−15·5	−7·6	−13·9	5·2	22·2	28·5	36·0	42·2	44·1	−18·2	−21·0
Barrie	34·1	25·3	10·8	−19·9	−17·4	−13·7	−6·1	18·0	27·0	37·6	46·6	42·1	−26·5	−38·1
Stayner	36·3	29·0	8·5	−20·5	−10·5	−10·0	−0·3	22·3	30·7	41·0	47·7	40·7	−20·5	−29·0
N. Gwillimbury	44·7	32·2	11·8	−15·7	−15·5	−9·7	−1·7	23·0	39·2	51·2	56·3	52·2	−16.3	−28·0
Gravenhurst	32·1	23·4	3·3	−32·2	−29·8	−23·7	−14·3	16·0	32·4	46·1	50·6	44·4	−36·3	−41·0
Hamilton	32·3	22·1	9·5	−7·7	−8·1	−5·1	−2·2	19·5	29·3	37·0	47·0	43·1	−13·6	−19·5
Toronto	34·6	25·0	15·2	−3·3	−7·6	−7·9	2·5	19·3	30·9	38·8	47·1	44·4	−12·3	−26·5
Peterborough	28·2	16·3	1·0	−22·8	−20·7	−15·5	−11·1	16·3	27·1	36·7	43·2	36·7	−25·9	−38·5
Cornwall	32·2	23·6	7·1	−17·1	−15·9	−13·4	−9·9	18·8	29·7	41·0	47·4	41·5	−20.7	−28·5
Belleville	34·9	25·3	9·6	−15·1	−16·2	−11·1	−2·4	21·0	32·0	43·1	50·8	44·7	−18·4	−19·9
Pembroke	30·0	20·2	0·0	−26·8	−32·7	−26·5	−23·2	11·0	26·8	36·1	44·4	37·8	−37·3	−45·0
Fitzroy Harbor	36·7	26·5	−4·0	−26·8	−29·0	−26·9	−8·0	22·0	40·0	49·7	56·2	48·8	−38·0	−41.0
Quebec.														
Montreal	41·2	28·9	3·5	−12·3	−18·2	−12·2	−9·5	27·4	37·2	49·7	53·4	52·0	−17·2	−28·0
Huntingdon	38·3	28·3	8·3	−23·0	−23·7	−19·7	−17·0	23·3	32·7	48·0	53·3	46·7	−26·7	−30·0
Quebec	36·4	25·6	3·4	−16·8	−20·3	−17·8	−8·9	17·5	30·9	42·2	46·6	45·5	−23·5	−30·5
New Brunswick.														
St. John	41·0	25·0	12·8	−5·8	−11·0	−6·4	−1·2	20·2	31·8	43·2	49·0	48·4	−10·6	−21·0
Bass River	33·7	20·0	7·0	−12·5	−20·2	−15·2	−3·4	17·4	25·4	40·0	47·8	41·6	−22·6	−28·2
Nova Scotia.														
Halifax	36·5	25·7	16·7	1·9	−6·2	−3·0	−0·7	19·8	25·8	37·6	50·2	44·3	−8·8	−13·7
Glace Bay	37·0	25·8	19·6	6·2	−3·6	−4·7	0·1	16·5	24·8	33.6	40·2	44·2	−7·5	−13·0
Pictou	36·8	30·3	14·5	−5·8	−12·7	−13·5	−2·4	17·2	28·2	38·2	44·5	45·5	−13·2	−20·0
Sydney	33·6	24·7	19·7	−5·1	−6·3	−5·3	−4·3	14·7	25·0	32·3	38·3	41·4	−9·8	−10·5

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TABLE IV—Monthly, Quarterly and Annual Rainfall and the Annual Depth of Rain and Snow, reduced to water, derived from three or more years.

—	Monthly.												Quarterly.				Year.	Total Precipitation.
	September.	October.	November.	December.	January.	February	March.	April.	May.	June.	July,	August.	Autumn.	Winter.	Spring.	Summer.		
Ontario.																		
Goderich	3·28	2·46	1·44	0·84	0·66	0·55	1·39	1·81	3·38	2·39	2·94	2·78	7·18	2·05	5·59	9·10	23·92	32·56
Kincardine	4·68	3·36	1·66	0·81	0.38	R	1·58	1·87	2·07	2·94	3·21	2·56	9·70	2·19	5·69	7·84	25·42	39·52
Stratford	3·76	2·72	1·79	1·02	0·61	0·73	1·48	2·17	3·89	2·78	3·04	3·20	8·27	2·36	6·43	10·13	27·19	38·15
Simcoe	3·68	3·12	2·83	2·31	2·11	1·70	3·30	3·17	3·28	3·70	3·51	3·64	9·63	6·12	10·17	10·43	36·35	40.64
Windsor	1·69	1·76	2·42	0·82	1·19	1·14	1·56	1·87	3·63	3·15	2·41	2·14	5·87	3·15	6·58	8·18	23·78	31·72
Glencoe	1·41	0·58	0·77	0·50	0·63	0·37	1·41	1·86	3·11	1·91	4·33	2·00	2·76	1·50	5·18	9·44	18·88	25·20
Woodstock	2·93	2·64	0·95	0·82	0 59	0·58	1·31	1·60	3·04	2·45	2·96	4·41	6·52	1·99	5·36	10·41	24·28	31·28
Barrie	2·84	2·35	1·42	0.63	0·01	0·18	1.12	1·66	2·84	2·37	3·01	2·28	6·61	0·82	5·15	8·13	20·71	32·15
Stayner	3·38	2·83	0·69	R	R	R	0·37	2·99	2·82	1·99	3·94	1·23	6·90	R	5·35	7·99	18·20	37·80
North Gwillimbury	3·31	2·92	1.18	0·35	0.12	0·10	0 51	1·36	2·11	1·50	2·23	1·98	7·41	0·57	3·37	6·32	17·67	23·01
Gravenhurst	4·04	2·93	1·94	0·02	0·72	0·59	0·91	2·82	2·10	2·07	3·15	2·03	8·91	1·33	5·80	7·28	23·32	36·47
Hamilton	3·50	2·17	1·84	1·99	1·94	1·22	1·94	1·56	3·26	2·71	2·95	2·35	7·51	5·15	6·21	8·56	27·43	35·48
Dundas	3·18	2·66	1·08	1·26	0·46	0·40	2·00	1·94	3·11	2·10	3·21	2·46	6·92	2·12	6·04	8·78	23·86	29·44
Toronto	3·68	2·42	2·93	1·62	1·20	0·88	1·59	2·45	2·98	3·21	3·22	3·00	9·03	3·70	7·25	9·20	29·18	36·09
Peterborough	3·22	2·93	1.81	0·65	0·64	0·36	1·01	1·89	1·95	2·03	2·45	2·60	6·96	1·65	4·93	7·01	20·55	30·51
Cornwall	3·45	2·52	1.82	0·15	0.00	0·66	0·26	2·12	1·29	3·59	2·97	1·89	7·79	0·81	5·97	6·15	20·72	29·31
Belleville	3·71	2·76	2·62	1·72	1·02	0·80	1·29	2·21	2·60	2·64	2·16	2·38	9·09	3·54	6·14	7·14	25·91	36·41
Pembroke	3·21	2·58	1·09	0·21	0·15	0·15	0·56	1·33	3·06	2·28	2·51	2·36	6·88	0·51	4·17	7·93	19·49	28·38
Fitzroy Harbour	2·15	3·55	0·76	0·26	0·41	0·09	1·14	1·18	2·42	1·63	2·89	2·15	6·46	0·76	3·95	7·46	18·63	25·83
Quebec.																		
Montreal	3·92	3·75	2·66	0·85	0·64	0·42	1·41	1·30	2·26	3·01	2·26	3·62	10·33	1·91	5·72	9·30	27·26	37·54
Huntingdon	2·76	4.50	2·01	1·08	0·83	0.00	1.04	2·56	1·80	1·83	3·62	3.54	9·27	1·91	5·43	8·69	25·30	32·19
Quebec	2·81	2·89	0·95	0·00	0·25	0·00	0·42	1·17	2·52	1·11	2·52	4·27	6·65	0·25	2·70	9·66	19·26	31·84
New Brunswick																		
St. John	4·38	4·68	5·33	2·67	2·13	2·86	2·23	3·14	4·51	3·00	3·45	3·89	14·39	7·66	9·88	10·34	33·27	43 12
Bass River	2·58	4·88	3·78	1·15	1·30	0·61	0 92	2·13	2·83	3·30	2·53	3·77	11·24	3·06	5·88	9.60	29·78	40·91
Nova Scotia.																		
Halifax	3·69	5·02	4·68	3·44	3·66	3·39	2·91	3·10	4·17	3·04	2·37	3·61	13·39	10·69	10·18	8·92	43·08	50·98
Glace Bay	5·37	6·44	5·69	4·96	4·29	4·35	3·96	4·22	3·49	4·50	3·95	4·27	17·50	13·60	12·68	11·71	55·49	66·00
Pictou	3·65	4·11	4·42	2·05	1·97	0·85	0·60	1·50	3·30	3·09	3·89	3·57	12·18	4·87	5·19	10·76	33·00	49·23
Sydney	5·48	5·04	6·88	4·03	3·49	3·16	2·20	4·03	3·46	3·16	3·42	5·07	17·40	10·68	9·39	11·95	49·42	63·93

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TABLE V.—Mean Temperatures of the several Months, at Stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive.

	1872.				1873.								
	September.	October.	November	December	January.	February	March.	April	May	June	July.	August.	Mean.
Ontario.	°	°	°	°	°	°	°	°	°	°	°	°	°
Pembroke	59·8	44·4	31·8	10·4	7·9	12·1	24·3	38·1	.....	.....	.....	.....	.....
Little Current	56·8	44·4	30·8	12·1	10·7	11·3	25·1	36·2	48·1	61·5	65·5	66·1	38·9
Fitzroy Harbor	60·3	44·5	32·3	9·0	11·7	15·2	27·2	41·2	56·0	66·1	70·5	67 6	41·8
Ottawa	59·1	43·3	31·3	9·0	10·5	14·6	25·5	39·7	54·7	66·8	69·3	66·4	40·9
Cornwall	59·7	44·1	33·4	11·7	13·0	16.6	22·6	40·4	55·6	66·7	70·5	66·5	41·7
Brockville	59·5	44·1	31·6	11·9	13·2	16 8	25·8	38·7	53·6	65·9	68·5	64·7	41·2
Gravenhurst	57·2	42·2	30·6	12.9	11·9	13·5	23·0	36·3	51·5	65·0	66·2	64·9	39·7
Barrie	60·4	45·9	32·1	15·8	15·2	19·4	25·9	38·5	53·3	66·7	68·7	68·4	42·5
Peterborough	60·8	44·8	32·4	14·0	15·7	19·8	26·3	39·5	55·2	68·3	70·3	67·9	43·0
Kincardine	59·2	45·8	33·5	18·5	13·8	15·5	22·1	37·4	48·8	62·2	63·8	64·6	40·4
Belleville	60·0	45·3	34·0	15·7	17·3	21·0	26·7	40·7	54·6	67·9	70·3	67 8	43·4
N. Gwillimbury	61·1	47·3	35·6	17·8	17·3	18·4	27·4	39·5	51·2	66·4	69·1	68·6	43·3
Point Clark	59·9	45·8	34·3	26·7	16·5	16·7	24·2	36·2	49.0	60·1	63·1	65·3	41 5
Oshawa	48·9	44·6	33·6	17·7	15·7	.....	.....	.....	54·1	65·3	.....	64·4	.....
Goderich	60·7	46·1	32·9	20·1	17·3	20.1	25·9	38·6	53·2	66·0	68·6	70·2	43·3
Brampton	59·2	43·9	31·7	15·6	14·7	16·9	25·8	39·2	52·9	65·0	69·3	65·9	41·7
Toronto	59·1	45·6	32·9	18·7	17·7	21·5	26·6	38·6	51·9	63·7	68·4	66·6	42·6
Stratford	58·6	44·2	29·7	15·8	15·8	19·3	24·5	38·1	53·6	65·6	67·6	66·3	41·6
Granton	.....	.....	.....	.....	.....	.....	.....	38·5	53·4	65.4	66·1	65·6	.....
Dundas	59·2	46·2	30·8	.....	.....	19·1	28·4	40·2	54·1	66·9	70·0	67·8	.....
Hamilton	62·3	47·7	33·9	19·8	19·5	23·2	28·9	40·5	53·6	65·7	72·3	70·3	44·8
Woodstock	61·0	44·7	31·3	14·2	15·0	17·4	24·6	39·2	53·5	65·1	67·5	65·9	41·6
Ingersoll	59·6	45·0	31·1	15 5	17·2	18·8	25·9	39·2	53·6	65·2	67·2	65·7	42·0
Glencoe	54.6	47·2	27·1	14·3	15·8	20·0	26·0	35·4	54·3	69·8	.....	.....	.....
London	.....	42·9	29·0	14·8	.....	.....	.....	39·4	52·4	64·5	67·7	69·2	.....
Simcoe	61·7	47·4	33·2	19·7	20.3	24·1	28·6	42·4	56·7	69·2	74·1	73·8	46·0
Welland	.....	46·1	30·3	19·2	19·7	21·2	27·7	41 7	54·7	67·4	70·9	68·3	.....
Windsor	63·7	49·7	31·7	18·3	18·8	23·6	30·3	42·3	58·0	71·4	72·5	72·0	46·0

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TABLE V.—Mean Temperatures of the several Months, at Stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive.—*Continued.*

—	1872.				1873.								
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Mean.
Quebec.	°	°	°	°	°	°	°	°	°	°	°	°	°
Montreal	62·1	45·7	34·2	13·6	15·0	18·5	28·7	41·9	57·2	67·2	71·4	69·4	43·7
Quebec	57·0	42·8	29·2	6·9	8·9	11·0	22·7	35·8	50·5	60·9	68·4	63·8	38·2
Huntingdon	60·5	46·1	33·9	9·6	11·2	13·5	25·2	40·7	55·4	66·2	69·6	65·6	41 4
Cape Rozier	52·7	42·6	30·2	14·2	9·1	10·9	22·9	.....	.....	.....	.....	.....	.....
Nova Scotia.													
Digby	58·2	48·3	38·6	23·1	25·7	22·8	30·4	38·3	49·0	55·2	63·6	61·6	42·9
Wolfville	59·3	49·4	37·2	19·2	23·6	21·1	30·4	38·8	45·9	56·6	.....	.....	.....
Halifax	58·6	48 9	37·7	22·2	23·5	20·6	30·1	38·1	48·0	55·4	63·4	62·9	42·5
Glace Bay	58·8	49·8	37·3	25·2	....	17·6	29·6	33·6	44 5	52·6	61·9	63·1	.....
Pictou	58·3	48·4	36·2	19 4	20·1	15·0	28 6	35·4	46·1	55·4	67·4	62·5	41·2
Sydney	57·3	48·3	36·7	24·3	20·9	15·7	27·9	33·4	44·0	*49·5	*62·3	60·8	40·1
Yarmouth	....	....	.....	.....	.....	23·8	30·7	38·4	45·6	53·7	59·9	.....	....
Guysborough	59·4	50·0	36·7	20·7	19·9	16·5	28·8	35·2	46·0	55·4	65·3	63·5	41·5
New Brunswick													
St. John	55·3	46·0	35·6	16·5	20·2	19·0	28·7	37·5	46·2	53·2	59·7	59·4	39·8
Bass River	56·6	43·6	31·2	11·9	13·2	10·9	26·3	34·6	47·3	58·1	66·0	.....	.....
Fredericton	57·1	44·8	32·7	11·9	14·2	15·4	28·6	39·8	52·0	59·8	67·8	63·4	40·6
Bathurst	56·4	44.9	32·0	12·8	13·2	12·1	26·7	35·6	47·9	60·4	67·9	63·0	39·4
P. E. Island.													
Charlottetown	....	....	35·8	17·9	18·1	14·1	27·8	35·4	45·3	55·9	65·1	62·8	.....

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Newfoundland.														
St. John	57·0	50·3	37·1	29·0	25·9	24·3	30·1	33·6	43·1	52·0	61·6	61·4	41·4
Harbor Grace	58·0	51·3	37·1	25·4	23·7	23·7	29·7	31·5	42·6	51·1	59·2	59·8	41·6
Fogo	....	51·3	35·1	.....	.....	18·1	27·4	30·4	39·4	54·8	61·8	64·3	.....
Manitoba.													
Winnipeg	52·9	42·3	17·2	—0·0	—4·7	3·8	11·2	33·2	51·3	64·5	63·4	63·7	32·4
St. John's College	51·8	42·3	18·2	—7·3	—5·7	2·0	12·4	31·0	46·0	64·6	63·7	63·3	31·9
British Columbia.													
Spence's Bridge	62·6	49·1	28·6	21·6	24·7	27·5	41·2	52·8	57·9	62·9	71·4	71·1	47·3

* At Sydney, during these months, the returns are incomplete, owing to the absence of Mr. Hill.

4—12

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TABLE VI.—Highest Temperature in each Month, at the several Stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive.

	1872.				1873.							
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
Ontario.	°	°	°	°	°	°	°	°	°	°	°	°
Pembroke	87·8	80·0	66·3	38·7	45·2	43·5	66·5	65·1	.....	.....	.....	.....
Little Current	79·7	67.6	60·5	34·5	43·5	45·5	46·5	62·5	76·5	84·5	86·5	87·5
Fitzroy Harbor	93·0	68·0	51·0	36·0	46·0	45·0	50·7	65·0	82·7	88·0	90·3	87·0
Ottawa	91·9	75 4	49·7	37·9	45·0	42·8	46·5	67·0	84·5	90·9	94·7	90·2
Cornwall	86·8	74.8	51·6	38.3	52.8	43·5	49·0	66.3	82·3	88·8	86·8	84·5
Brockville	83·0	74·0	53·0	37·0	51·0	43·0	47·0	65·0	82 0	88·0	86.0	84.0
Gravenhurst	88·3	67.9	46·0	35·3	37·8	38·8	47·1	59·6	76·8	89·8	87·0	85.3
Barrie	94·1	74·1	54·5	39·1	40·9	49·6	49·4	64·1	87·1	96·4	88·1	89·1
Peterborough	95·7	78·0	61·3	38·7	47·7	48·2	51·2	68·3	84.0	93·8	91·1	89·1
Kincardine	89·3	70·5	52·0	38·5	46·0	47·5	52·1	62·0	84·5	87·5	88·5	87·5
Belleville	84·7	72 4	51·8	39·7	46·6	44·6	45·7	64·8	82·0	86·4	90·0	82·6
N. Gwillimbury	93·5	73·0	52·0	37·0	44·0	46·0	52 0	54·5	82·5	96.0	89·5	90·0
Point Clark	79·0	64·0	53·0	33·0	42·0	36·0	38.0	51·0	70·0	76·0	80 0	81·0
Oshawa	85·0	66·0	51·0	35·8	38·0	.....	.....	.....	70·0	.....	82·0	79·0
Goderich	84·1	71·7	51·3	37·2	43.7	45·1	48·9	63·4	83·9	87·2	90·2	89·0
Brampton	82·0	61·0	50·0	36·0	42·0	40·0	47·0	49·0	72·0	84·0	80·0	79·0
Toronto	84·4	70·0	52·0	40·0	46·0	43·0	45·0	61.2	76·4	89·5	87·5	85·0
Stratford	84·0	71·3	49·6	34·6	40·4	41·4	44·2	58·5	78·0	86·5	86·5	82·5
Granton	.....	.....	.....	.....	.....	.....	.....	59·0	84·0	88·0	89·0	87·0
Dundas	94·0	70·0	50·0	.....	.....	44·0	50·0	56·5	74·0	80·0	78·0	76·0
Hamilton	91·8	74·0	57·2	41·3	49·3	44·8	52·3	65·3	84·2	91·6	90·2	89·8
Woodstock	88·0	75·5	52·6	35·5	40·4	43·9	48·5	61·8	85·3	87·6	90·4	88·4
Ingersoll	87·0	73·5	53·0	35·5	43·0	45·0	48·5	63·5	85·5	87·0	89·5	85·5
Glencoe	70 0	68·0	44·0	34·0	38·6	42·0	50·0	54·6	74·6	78·6	.....	.....
London	90·0	77·0	54·3	39·0	.....	.....	.....	65·0	84·3	89·0	89·5	86·0
Simcoe	84·7	77·0	56·8	40·9	44·9	48·0	50·8	64·8	90·9	91·9	89·5	88·0
Welland	.....	76·0	52·0	42·0	55·0	50·0	51·0	65·0	80·0	87·0	91·0	85·0
Windsor	95·0	82·5	54·4	40·2	53·9	51·0	51·6	66·9	85·7	94·3	92·2	94·9
Quebec.												
Montreal	83·6	77·0	52·4	35·8	41·1	44·1	45·2	71·2	80·7	85·2	90·0	85·3
Quebec	76·0	67·0	46·0	30·0	36·0	34 0	45·0	57·0	78·0	87·0	87·0	83·0
Huntingdon	85·0	76·0	52·0	36·0	52·0	40·0	50·0	66·0	83·0	90·0	89·0	82·0

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Nova Scotia.												
Digby	78·0	74·0	56·0	44·0	56·0	46·0	52·0	58·0	72·0	84·0	86·0	80·0
Wolfville	77·8	67·5	56·0	43·3	57·0	39·9	50·6	57·0	73·6	82·4	.....	.....
Halifax	81·8	71·1	58·3	47·2	52·4	43·3	48·0	62·7	81·5	86·0	87·5	87·4
Glace Bay	76·0	68·0	54·0	48·0	.....	41·9	44·0	50·0	77·0	85·0	81·0	79·0
Pictou	76·5	69·5	59·5	47·0	53·5	42·0	50·0	56·0	81·0	84·5	86·0	84·0
Sydney	74·7	67·9	59·8	47·6	49·0	41·7	47·4	54·9	79·1	76·8	81·8	80·3
Yarmouth	.....	.....	.....	.....	.....	47·0	48·0	56·0	74·0	76·0	81·0	.....
Guysborough	76·0	69·0	56·0	46·0	49·0	36·0	48·0	55·0	74·0	78·0	85·0	84·0
New Brunswick.												
St. John	67·0	61·0	53·0	41·0	45·0	38·0	42·0	56·0	70·0	82·0	80·0	
Bass River	80·0	70·0	55·8	35·8	48·6	35·0	47·7	53·8	82·5	86·9	.....	
Fredericton	79·0	67·0	53·0	35·4	48·0	36·0	50·0	62·0	81·0	86·0	83·0	
Bathurst	75·5	69·0	52·0	33·0	46·0	38·0	47·0	52·0	78·0	92·0	85·0	85·0
P. E. Island.												
Charlottetown	.....	.....	57·0	42·5	47·6	38·2	46·4	56·1	74·7	82·5	86·4	80·6
Newfoundland.												
St. John	76·0	67·0	61·0	50·0	47·5	41·0	46·5	55·0	66·5	80·0	80·0	84·0
Harbor Grace	79·0	75·0	52·0	50·0	47·0	41·0	46·0	51·5	66·5	78·0	81·0	78·5
Fogo	.....	.....	.....	.....	.....	.....	.....	.....	.....	85·0	80·0	83·0
Manitoba.												
Winnipeg	89·5	69·3	43·5	28·8	23·5	33·3	44·5	64·5	76·0	89·7	94·3	94·3
St. John's College	82·7	68·0	42·5	31·0	24·0	33·5	42·5	67·0	84·5	93·5	87·0	87·3
British Columbia.												
Spence's Bridge	90·0	76·0	63·0	46·0	47·0	48·0	63·0	78·0	85·0	90·0	99·0	93·0

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TABLE VII.—Lowest Temperature in each Month, at the several Stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive.

	1872.				1873.							
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
Ontario.	°	°	°	°	°	°	°	°	°	°	°	°
Pembroke	37·5	28·4	8·3	—38·0	—30·0	—30·2	—13·4	14·2	.....	.....	.....	.....
Little Current	35·8	23·6	4·0	—22·5	—20·0	—22 5	—10·0	23·5	29·0	37·5	45·5	47·5
Parry Harbor	40 2	26·4	4 0	—35·0	—26·0	—30·7	— 9·0	23·0	39·0	48·0	54·6	49·0
Ottawa	40·5	26·2	9·2	—29·1	—24·9	—18·7	— 2 5	23·0	32·3	44·8	47·8	45 0
Cornwall	38 3	23·0	6·5	—28·5	—21·8	—18·8	— 3·6	25·0	28·0	38·7	44·2	39·0
Brockville	35·0	24·0	6·0	—30·0	—25·0	—10·0	— 8·0	20·0	28·0	43·0	46·0	43·0
Gravenhurst	34·9	22·2	9·0	—26·5	—31·5	—27·1	—20·0	22·6	33·6	50·4	48·3	48·8
Barrie	35·5	23·5	2·5	—24·6	—27·8	—20·4	—18·0	16·8	26·5	32·0	42·7	44·0
Peterborough	35·4	20·7	1·8	—23·2	—27·3	—13·7	—10·0	2· ·1	27·3	37·7	44·9	40·3
Cobourg	38·5	29·9	13·0	— 4·5	—12·0	— 6·0	— 5·0	23·7	28·7	39·7	44·2	44·1
Belleville	37·7	27·5	5·8	—17·2	—17·9	—10·5	— 2·0	22·2	32·4	43·1	48·7	43·5
N. Gwillimbury	47·0	34·0	13·0	—15·0	—16·5	— 8·0	— 6·0	24·0	32·0	54·0	56·5	55·5
Point Clark	44·0	28·0	16·0	— 3·0	—10·0	— 8·0	— 5·0	26·0	45·0	48·0	48·0	53·0
Oshawa	40·0	30·0	12·0	—12·5	—23·0	.....	.....	.....	38·0	58·0	.....	55·0
Goderich	36·3	27·2	8·8	—12·6	—18·1	—13·6	—10·0	19·8	26 0	40·2	39·0	41·4
Brampton	45·0	31·0	12·0	—21·0	—21·0	— 7·0	— 2·0	30·0	38·0	54·0	57·0	56·0
Toronto	38·2	25·2	8·2	—13·8	—18·4	—10·5	— 6·0	24·4	30·0	40·0	47·5	46·4
Stratford	35·7	25·5	6·7	—17·0	—19·3	—12·1	—11 8	25·2	30·4	39·4	43·0	41·0
Granton	.....	.....	.....	.....	.....	.....	.....	28·0	34·0	52·0	51·0	51·0
Dundas	48·0	36·0	10·0	.....	.....	— 8·0	— 0·0	32·0	39·5	56·0	54·0	58·5
Hamilton	37·8	25·2	9·6	—11·0	—14·5	— 4·4	— 0·4	31·5	34·1	43·7	49·2	45·8
Woodstock	32·2	20·0	—13·0	—21·0	—26 5	—15·0	—13·0	24·0	29·5	38·5	42·5	37·0
Ingersoll	35·5	26·0	5·8	—19·2	—19·0	— 9·0	— 9·0	27·9	30·0	35·0	44·5	41·6
Glencoe	40·0	32·0	10·0	—17·4	—28·4	— 5·0	— 2·0	26·6	33·6	52·6	.....	.....
London	32·3	23·7	5·5	—19·2	.....	.....	.....	20·0	29·4	39·0	43·0	40·0
Simcoe	36·0	31·0	6·0	—23·5	—25·6	— 6·0	— 6·0	25·0	29·0	39·8	45·1	41·8
Welland	.....	20·0	3·0	—13·0	—25·0	—13·0	—18·0	25·0	29·0	41·0	47·0	43·0
Windsor	33·0	29·1	1·8	—21·0	—27·1	— 8·0	— 3·5	28·4	37·5	44·9	48·1	49·6
Quebec.												
Montreal	45·2	31·1	—10·1	—17·8	—15·0	—10·3	4·3	29·0	34·8	48·0	54·3	49·1
Quebec	41·0	25·0	3·0	—25·0	—19·0	—20·0	— 6·0	24·0	28·0	42·0	48·0	42·0
Huntingdon	43·0	26·0	9·0	—26·0	—24·0	—14·0	0·0	28·0	34·0	48·0	52·0	43·0

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Nova Scotia.												
Digby	46·0	28·0	14·0	— 4·0	0·0	— 4·0	10·0	30·0	30·0	40·0	52·0	48·0
Wolfville	49·3	31·1	24·9	— 4·9	— 1·1	0·9	15·1	29·2	29·8	38·9	.....	.....
Halifax	42·8	31·1	19·8	— 5·4	—14·4	—12·0	— 3·8	21·1	24·0	35·3	41·8	43·8
Glace Bay	43·0	29·0	18·0	— 2·0	.....	—15·0	6·0	18·0	22·0	35·0	47·0	42·0
Pictou	41·0	29·0	16·5	—10·0	—14·0	—20·0	1·0	24·0	25·0	36·0	39·5	45·0
Sydney	36·6	24·9	17·1	— 2·2	—24·5	—23·8	— 7·3	15·8	19·6	35·0	37·5	38·4
Yarmouth	.....	.....	.....	.....	.....	4·0	9·0	27·0	28·0	30.0	46·0	.....
Guysborough	40·0	28·0	15·0	— 8·0	—12·0	—15·0	7·0	23·0	21·0	36·0	42·0	44·0
New Brunswick.												
St. John	47·0	25·0	15·0	—16·0	—10·0	—10·0	8·0	26·0	30·0	38·0	51·0	45·0
Bass River	37·0	19·0	8·1	—17·0	—28·2	—20·6	— 2·8	15·2	21·5	28·5	37·3	.....
Fredericton	41·0	23·0	12·0	—21·0	—28·0	—22·0	25·0	20·0	29·0	34·0	38·0	40·0
Bathurst	37·5	23·0	6·0	—12·0	—31·0	—30·0	— 1·0	14·0	21·0	31·0	42·0	37·0
P. E. Island.												
Charlottetown	.....	.....	14·5	—12·2	—12·0	—15·0	3·0	22·0	26·3	36·9	42·0	43·5
Newfoundland.												
St. John's	35·0	32·0	19·5	10·5	— 1·0	— 7·0	14·5	24·0	25·0	32·0	40·0	41·0
Harbor Grace	44·0	28·0	19·0	13·0	— 1·0	—12·0	14·0	25·5	27·0	34·0	42·5	42·5
Fogo	.....	.....	.....	.....	.....	.....	.....	.....	.....	29·0	42·0	47·0
Manitoba.												
Winnipeg	29·7	19·3	—30·0	—41·0	—35.0	—36·0	—36·0	16·0	22·0	41·7	35·0	37·0
St. John's College	28·0	22·0	—29·0	—43·0	—35·5	—38·5	—38·0	15·0	23·0	43·6	37·0	40·0
British Columbia.												
Spence's Bridge	37·0	28·0	5·0	— 4·0	1·0	—10·0	23·5	33·0	42·0	43·0	51·0	49·0

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TABLE VIII.—Mean Temperature in each Quarter and in the Year, from September, 1872, to August, 1873, with the Highest and Lowest Temperatures in the Year, and the dates of their occurrence.

—	Mean Temperature, 1872-73.					Highest Temperature.		Lowest Temperature.	
	Autumn.	Winter.	Spring.	Summer.	Year.	Temperature.	Time of Occurrence.	Temperature.	Time of Occurrence.
Ontario.	°	°	°	°	°	°		°	
Pembroke	45·3	10·1	...	...	...	...	...	—38 0	December 25
Little Current	44·0	11·4	35·8	64·4	38·9	87·5	August 29	—22·5	Dec. 24, & Feb. 23
Fitzroy Harbor	45·7	12·0	41·5	68·1	41·8	93·0	Sept. 7	—35·0	December 25
Ottawa	44·6	11·4	40·0	67·5	40·9	94·7	July 14	—29·1	,, 25
Cornwall	45·7	13·8	39·5	67·9	41·7	88·8	June 29	—28·5	,, 25
Brockville	45·1	14·0	39·4	66·4	41·2	88·0	,, 29	—30 0	,, 29
Gravenhurst	43·3	12·8	37·3	65·4	39·7	89·8	,, 19	—31·5	January 29
Barrie	46·1	16·8	39·2	67·9	42 5	96·4	,, 2	—27·8	,, 29
Peterborough	46·0	16·5	40·3	69·5	43·0	95·7	Sept. 7	—27·3	,, 29
Kincardine	46·2	15·9	36·1	63·5	40·4	89·3	,, 7	—12·0	,, 28
Belleville	46·4	18·0	40·7	68·3	43·4	90·0	July 15	—17·9	Dec. 25 & Jan. 29
N. Gwillimbury	48·0	17 8	39·4	68·0	43·3	96·0	June 19	—16·5	January 29
Point Clark	46·7	20.0	36·5	62·8	41·5	81·0	Aug. 21	—10·0	,, 29
Ottawa	42·4	...	...	...	...	...	...	—23·0	,, 29
Goderich	46 6	19·2	39·2	68·3	43·3	90·2	July 25	—18·1	,, 29
Brampton	44·9	15·7	39 3	66·7	41·7	84·0	June 19	—21·0	Dec. 24 & Jan. 29
Toronto	45·9	19·3	39·0	66 2	42·6	89·5	,, 19	—18 4	January 29
Stratford	44·2	17·0	38·7	66·5	41·6	86·5	June 19 & July 17.	—19·3	,, 29
Granton	...	...	...	65·7	...	89·0	July 17	...	...
Dundas	45 4	...	40·7	68·2	...	94 0	Sept. 7	...	...
Hamilton	48·0	20·8	41·0	69·4	44·8	91·8	,, 8	—14·5	January 29
Woodstock	45·7	15·5	39·1	66·2	41·6	90·4	July 26	—26·5	,, 29
Ingersoll	45·2	17·2	39·6	66·0	42 0	89·5	,, 17	—19·2	December 22
Glencoe	43·3	16·7	38·6	...	...	...	...	—28·4	January 29
London	...	...	...	67·1	...	90 0	Sept. 7	...	...
Simcoe	47·4	21·4	42·6	72·4	46·0	91·9	June 25	—25·6	January 29
Welland	...	20·0	41·4	68·9	...	91·0	July 28	—25·0	,, 29
Windsor	48·4	20·2	43 5	72·0	46·0	94·9	Aug. 21	—27·1	,, 29
Quebec.									
Montreal	47·3	15·7	42·6	69·3	43·7	96·0	July 14	—17·8	December 25
Quebec	43.0	8.9	36.3	64·4	38·2	87·0	June 26 & July 2.	—25·0	,, 26
Huntingdon	46.8	11 4	40.4	67·1	41·4	90·0	June 30	—26·0	,, 25

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Nova Scotia.											
Digby	48·4	23·9	39·2	60·1	42·9	86·0	July	3	—4·0	Dec. 25 & Feb. 2	
Wolfville	48·6	21·3	38·4	.....	.....	.....	.....	.....	—4·9	December	25
Halifax	48·4	22·1	38·7	60·6	42·5	87·5	July	31	—14·4	January	30
Place Bay	48·6	.....	35·9	59·2	.....	85·0	June	25	—15·0	February	3
Pictou	48·0	18·2	36·7	61·8	41·2	86·0	July	3	—20·0	do	3
Sydney	47·4	20·3	35·1	57·5	40·1	81·8	,,	3	—24·5	January	31
Yarmouth	.....	.....	38·2	.....	.....	81·0	,,	31	.....	.....	.....
Guysborough	48·7	19·0	36·7	61·4	41·5	85·0	,,	14	—15·0	February	3
New Brunswick.											
St. John	45·6	18·6	37·5	57·4	39·8	82·0	July	31	—16·0	December	25
Bass River	43·8	12·0	36·1	.....	.....	86·9	,,	3	—28·2	January	30
Fredericton	44·9	13·8	40·1	63·7	40·6	86·0	,,	26	—28·0	,,	30
Bathurst	44·4	12·7	36·7	63·8	39·4	92·0	June	27	—31·0	,,	30
P. E. Island.											
Charlottetown	.....	16·7	36·2	61·3	.....	86·4	July	3	—15·0	February	2
Newfoundland.											
St. John's	48·1	25·7	35·6	58·3	41·4	84·0	August	4	—7·6	February	4
Harbor Grace	48·8	25·3	35·6	56·7	41·6	81·0	July	12	—12·0	,,	2
Fogo	.....	.....	34·4	60·8	.....	85·0	June	30	.....	.....	.....
Manitoba.											
Winnipeg	37·5	—3·3	31·7	63·9	32·4	94·3	July	20 & Aug. 8.	—41·0	December	24
St. John's College	37·4	—3·7	29·8	63·9	31·9	95·5	June	17	—43·0	,,	24
British Columbia.											
Spence's Bridge	46·8	24·6	50·6	67·1	47·3	99·0	July	27	—10·0	February	1

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TABLE IX.—September, 1872.—Daily Mean Temperatures at certain Stations in the Dominion of Canada.

	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Pictou.	Charlottetown.	St. John.	Fredericton.	Harbor Grace.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	67·5	73·4	68·5	65·6	64·1	63·4	63·0	60·5	63·0	51·4	58·3	.....	54·3	53·9	60·7
2	70·6	70·8	69·9	53·2	63·1	52·7	53·9	55·5	59·6	56·5	60·8	.....	53·0	57·7	60·6
3	71·7	70·4	70·4	55·7	51·8	49·8	48·0	51·3	54·7	53·8	61·2	.....	51·0	51·9	63·0
4	71·3	67·4	67·0	54·9	54·9	56·6	55·5	55·3	57·6	55·0	52·0	.....	54·7	52·5	66·2
5	67·7	63·5	61·3	61·7	63·3	61·1	55·7	60·0	62·9	49·3	53·5	.....	54·0	52·4	58·5
6	70·0	66·5	64·2	60·9	74·9	71·0	65·7	65·0	69·0	52·8	58·0	.....	54·0	55·6	57·3
7	69·0	64·7	63·0	62·8	73·8	70·4	74·2	70·3	72·2	58·9	61·3	.....	55·3	62·3	58·6
8	70·5	65·2	67·6	62·7	73·3	70·4	69·0	69·5	69·4	65·0	61·0	.....	59·7	70·3	60·2
9	69·0	68·9	67·4	62·7	64·2	62·9	62·7	61·0	65·2	52·9	52·4	.....	57·3	59·0	54·0
10	69·3	68·9	62·4	62·8	66·7	.....	66·0	67·8	68·7	49·4	51·4	.....	54·0	56·0	52·9
11	71·5	51·6	60·5	71·2	69·0	70·6	66·0	67·8	65·5	50·8	54·5	.....	53·0	57·0	48·3
12	70·0	54·3	64·5	64·7	66·8	72·5	72·9	73·0	72·2	54·3	56·9	.....	55·0	58·0	52·0
13	69·0	62·9	64·5	63·0	61·0	62·5	59·2	69·5	63·5	60·2	62·5	.....	61·0	62·6	58·8
14	68·2	59·0	70·5	47·9	53·6	54·2	59·8	57·0	60·6	62·6	57·4	.....	57·3	64·0	57·0
15	61·0	53·2	58·1	45·8	52·0	52·2	53·5	53·2	60·3	60·4	55·2	.....	54·7	55·3	61·2
16	63·0	48·4	52·5	51·7	55·8	56·8	51·3	51·8	57·7	54·5	53·5	.....	53·3	52·7	58·5
17	71·3	47·3	47·1	47·1	50·5	58·2	57·7	61·0	61·7	54·1	57·3	.....	54·7	52·0	52·0
18	74·7	50·5	55·5	47·6	51·9	58·6	58·0	59·2	63·8	53·9	54·9	.....	53·7	55·5	57·0
19	58·5	58·9	51·5	48·9	53·4	57·0	55·5	54·8	58·6	58·6	56·5	.....	54·0	56·4	50·0
20	58·0	46·2	50·1	46·2	50·2	49·5	49·0	55·0	56·4	51·9	57·0	.....	54·3	53·2	59·0
21	53·5	41·1	50·0	58·0	54·7	55·6	53·3	53·5	57·6	51·6	53·5	.....	53·3	53·7	58·5
22	46·5	49·0	56·1	59·4	65·9	61·8	64·5	67·8	62·5	53·2	58·1	.....	55·0	61·8	55·0
23	43·5	52·0	59·9	60·2	61·3	59·1	60·0	58·2	59·8	54·2	53·8	.....	57·3	55·4	58·5
24	47·8	46·2	60·3	68·4	68·2	66·8	69·8	66·5	65·2	51·2	53·0	.....	51·7	49·1	50·0
25	51·5	33·1	55·9	57·8	61·4	66·9	66·0	68·0	69·4	56·0	61·9	.....	55·3	57·4	54·8
26	57·5	35·1	55·9	52·3	54·4	62·5	56·8	58·8	61·5	58·8	65·8	.....	57·0	54·4	61·2
27	58·0	39·9	46·0	46·8	47·4	51·5	51·0	55·0	59·9	61·1	65·1	.....	59·0	61·9	65·8
28	60·5	39·7	56·7	49·4	49·6	53·5	47·5	50·3	55·6	61·0	66·2	.....	59·0	58·4	64·3
29	62·5	45·2	57·0	51·0	51·2	54·3	57·0	57·0	55·1	56·3	57·5	.....	59·0	52·7	60·0
30	63·0	49·1	48·8	48·2	47·5	56·0	55·2	57·0	57·6	57·0	58·9	.....	53·3	57·1	54·5
	62·6	52·9	56·8	57·2	61·5	60·3	59·5	60·5	62·1	58·6	58·3	.....	55·3	57·1	58·0

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TABLE X.—October, 1872.—Daily Mean Temperatures at certain Stations in the Dominion of Canada.

	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Ilcton.	Charlottetown.	St. John.	Fredericton.	Harbor Grace.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	57·7	48·8	44·1	43·2	45·7	50·0	49·5	52·2	55·5	62·6	64·8	.....	59·0	59·2	55·5
2	59·0	51·5	50·3	41·4	47·1	46·0	48·5	49·3	51·3	58·2	53·1	.....	52·7	49·3	63·2
3	52·5	53·3	48·0	44·3	48·9	48·8	45·5	50·3	49·3	51·6	49·9	.....	49·3	49·0	56·9
4	51·0	49·3	49·6	42·5	47·2	42·7	45·7	47·8	51·1	48·9	48·0	.....	48·7	46·4	53·5
5	53·5	41·6	57·3	56·4	50·3	53·0	56·3	51·7	56·1	45·0	41·5	.....	47·7	44·6	44·3
6	60·0	43·1	52·1	52·9	52·2	50·3	65·5	64·5	63·9	52·4	55·3	.....	51·3	53·8	49·3
7	63·0	51·5	51·7	46·3	51·7	50·5	50·3	57·0	53·9	58·4	58·6	.....	54·3	59·8	54·8
8	52·5	45·2	52·1	38·0	45·2	46·0	46·5	54·3	50·4	61·4	63·8	.....	56·3	56·9	59·4
9	42·8	52·3	52·6	56·7	59·0	53·5	52·3	54·0	54·0	53·6	51·0	.....	49·7	47·8	59·8
10	46·5	35·1	41·0	38·0	44·7	45·2	43·5	48·5	46·4	49·8	51·5	.....	51·3	53·3	60·9
11	50·3	41·7	36·1	32·7	35·5	34·6	35·0	36·7	40·6	50·5	49·1	.....	46·0	42·9	54·5
12	53·3	36·4	43·8	41·6	39·0	44·3	41·8	42·7	45·0	41·1	41·9	.....	40·0	36·4	53·5
13	51·5	38·5	40·5	41·8	41·7	46·2	43·5	45·0	45·2	44·4	44·9	.....	41·3	42·0	49·5
14	48·0	47·4	38·3	37·7	38·4	39·7	38·0	41·3	40·0	56·5	57·4	.....	50·0	49·3	54·2
15	45·5	57·2	36·4	36·6	38·0	40·0	37·8	41·8	39·7	49·6	48·4	.....	46·0	43·8	59·4
16	44·5	57·9	35·8	33·8	41·5	41·0	36·5	46·5	39·7	49·5	51·1	.....	43·0	42·0	54·0
17	46·0	41·4	44·0	38·6	36·6	41·8	41·8	44·0	43·7	44·9	38·9	.....	42·7	39·8	51·4
18	53·2	41·7	45·6	40·6	43·5	44·8	45·7	48·5	47·3	51·1	51·8	.....	48·0	44·4	49·0
19	48·0	48·7	35·5	32·6	31·9	25·5	35·5	37·5	40·1	55·0	54·5	.....	44·0	41·4	53·6
20	43·5	51·2	36·3	38·1	38·0	38·5	37·5	41·0	41·4	42·3	42·0	.....	38·0	39·7	59·0
21	42·0	36·3	36·1	54·3	52·3	52·5	50·3	47·5	49·8	40·3	40·1	.....	42·3	39·0	47·5
22	38·0	35·7	45·5	44·9	54·0	60·5	58·2	61·0	58·2	47·8	48·6	.....	49·0	47·3	45·9
23	44·5	40·3	39·0	32·5	40·6	40·7	39·0	45·0	48·5	53·3	53·4	.....	49·3	48·7	46·8
24	54·5	44·4	43·9	43·8	37·6	38·1	35·3	40·8	46·5	45·8	40·8	.....	44·0	41·1	45·6
25	47·0	48·3	45·2	45·5	45·4	46·0	44·2	44·7	46·7	45·0	46·7	.....	43·3	44·2	44·0
26	46·0	46·9	50·9	47·0	48·6	48·0	46·8	48·0	46·0	48·9	49·7	.....	46·3	46·4	49·2
27	41·0	45·1	46·5	43·3	46·8	46·2	44·5	44·5	42·9	50·3	42·7	.....	43·0	37·7	44·3
28	37·5	48·3	39·1	31·7	39·5	36·3	31·3	34·0	41·1	37·2	38·0	.....	35·0	33·9	36·1
29	35·3	44·9	45·5	39·1	38·8	35·8	35·3	37·0	41·9	36·8	36·2	.....	33·0	32·7	34·5
30	39·5	40·4	48·0	39·3	39·3	36·9	36·7	36·5	43·4	39·3	36·9	.....	36·7	33·9	36·7
31	41·5	35·0	45·1	34·1	40·1	39·2	35·5	40·2	42·5	45·5	44·7	.....	43·0	44·0	43·5
	49·1	42·3	44·4	42·2	44·7	44·5	44·1	46·1	45·7	48·9	48·4	.....	46·0	44·8	51·3

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TABLE XI.—November, 1872.—Daily Mean Temperatures at certain Stations in the Dominion of Canada.

	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Picton.	Charlottetown.	St. John.	Fredericton.	Harbor Grace.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	48·8	33·8	44·4	38·7	38·2	42·2	39·5	44·5	43·6	49·7	48·7	45·5	44·7	44·5	42·5
2	50·7	36·8	37·3	34·7	37·3	43·8	41·2	45·2	40·9	44·4	43·8	40·8	37·7	35·5	41·5
3	45·8	38·5	42·0	38·9	40·8	41·6	37·7	39·8	37·6	39·4	37·3	35·6	35·0	32·8	35·8
4	39·0	36·1	39·2	33·3	36·2	37·4	35·5	39·0	39·8	36·1	36·2	34·9	34·0	32·2	37·0
5	49·0	34·2	45·5	39·6	40·0	40·3	39·0	42·2	42·2	34·1	33·9	35·1	34·7	33·4	34·7
6	45·5	36·2	41·8	41·4	41·3	45·1	44·5	48·0	45·2	37·2	38·9	39·7	38·3	34·4	32·0
7	32·0	33·4	40·0	37·7	34·9	41·5	39·5	43·0	42·6	48·9	51·6	48·8	46·3	46·8	39·7
8	33·5	32·5	39·6	37·3	36·6	39·9	39·2	42·0	39·8	44·4	43·8	42·4	42·0	39·7	46·6
9	24·7	36·0	33·2	35·1	33·0	38·2	33·2	40·8	40·7	43·0	39·4	41·3	41·3	40·4	42·0
10	21·5	22·4	42·0	36·4	37·6	34·9	33·5	35·6	39·8	40·7	39·2	39·9	38·0	37·1	40·7
11	19·5	13·8	44·5	43·0	44·6	43·6	45·3	41·3	38·8	35·7	35·5	35·1	35·0	34·4	38·2
12	14·0	9·5	35·9	33·1	41·3	41·5	40·0	43·5	42·6	40·4	40·2	40·9	42·0	37·8	38·0
13	12·8	16·7	37·0	34·7	34·9	37·8	33·0	35·3	37·1	46·8	43·9	45·2	43·7	40·1	40·5
14	14·7	21·2	31·9	35·9	30·8	40·2	35·5	36·3	37·7	38·4	37·6	36·2	37·0	34·7	39·5
15	18·8	22·6	24·6	24·7	23·9	30·3	30·3	30·7	31·4	47·3	46·7	44·2	41·7	35·2	45·8
16	16·0	17·9	24·3	23·2	21·6	24·6	25·0	29·5	30·5	32·3	33·7	31·3	33·3	29·4	44·5
17	20·0	5·8	29·0	26·1	25·6	28·3	25·3	29·0	27·5	31·1	30·5	30·4	31·0	27·4	35·2
18	26·5	8·1	24·1	24·5	21·4	30·8	27·0	32·7	31·5	32·6	30·8	34·2	33·7	33·0	32·2
19	28·0	1·6	23·1	22·4	20·9	28·0	25·0	30·0	29·0	33·5	33·2	32·1	35·0	29·0	36·2
20	30·2	13·7	18·1	15·6	17·9	14·8	13·3	23·0	20·6	38·1	34·4	35·0	33·3	29·2	36·8
21	34·0	17·3	28·8	24·5	26·8	27·9	26·5	27·5	26·6	26·4	22·6	23·3	25·3	19·4	34·0
22	37·0	25·9	19·3	28·6	28·5	30·5	29·5	31·5	32·4	39·9	36·4	35·0	38·7	33·3	36·7
23	27·0	17·1	35·4	30·8	32·6	34·2	32·5	31·2	32·9	33·6	30·7	29·3	30·7	27·2	27·5
24	27·7	13·1	35·3	33·7	33·2	35·4	35·0	35·0	35·1	32·7	30·2	26·2	33·3	30·0	25·0
25	28·5	13·6	31·7	34·2	30·3	33·5	31·8	38·5	37·4	39·3	35·1	33·9	38·3	38·1	28·9
26	7·3	−15·6	27·3	22·8	23·8	24·0	27·0	27·0	30·2	37·5	34·9	34·1	35·0	32·3	34·1
27	12·0	−22·4	17·7	19·6	20·0	19·0	24·5	24·0	29·1	29·3	25·1	30·4	26·3	21·9	33·0
28	22·5	−13·6	11·6	16·2	15·4	18·0	19·8	19·0	26·1	30·1	28·0	24·4	26·7	22·2	31·5
29	34·7	− 0·4	5·6	11·5	11·8	13·5	17·3	18·8	26·9	36·1	37·2	33·5	30·0	28·1	34·6
30	38·0	11·7	12·3	15·6	14·2	8·5	12·3	10·7	13·5	32·5	31·5	32·2	27·3	22·6	41·0
	28·6	17·2	30·8	30·6	31·3	32·3	31·6	33·9	34·2	37·7	36·2	35·8	35·6	32·7	37·1

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TABLE XII.—December, 1872.—Daily Mean Temperatures at certain Stations in the Dominion of Canada.

	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Pictou.	Charlottetown.	St. John.	Fredericton.	Harbor Grace.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	28·5	9·9	.....	21·6	22·3	19·0	22·8	23·7	27·4	27·6	26·1	23·2	22·3	19·6	34·3
2	27·8	11·4	30·4	29·8	30·3	25·5	32·5	26·0	30·4	40·5	38·6	35·6	33·3	27·4	34·7
3	34·5	9·4	25·0	26·4	28·9	25·5	30·7	29·5	32·0	40·1	37·0	40·1	36·0	30·8	43·5
4	35·2	9·9	18·5	19·6	23·6	16·0	21·3	17·7	24·1	32·9	29·5	28·4	28·0	23·6	40·1
5	36·5	12·6	23·4	25·4	27·9	18·5	27·3	21·0	23·9	25·2	21·5	20·4	22·7	16·7	27·7
6	40·0	14·7	12·9	17·1	26·2	13·5	13·8	12·8	22·6	28 3	23·0	22·8	28·3	18·6	23·1
7	40·3	18·2	27·6	25·7	24·0	16·0	24·3	18·5	17·8	23·0	17·4	17·2	17·7	9·1	25·9
8	41·2	— 8·6	12·9	23·8	26·6	30·5	32·8	33·0	32·0	25·4	23·4	21·4	28·7	22·4	26·2
9	32 3	— 2·1	.....	4·5	9·9	5·5	7·3	9·0	16·2	41 6	40·0	35 9	36·7	31·4	32·2
10	26·0	— 7·5	4·5	4·9	11·1	7·0	8 2	7·5	8·6	30·1	26·5	25·7	24·0	19·7	42·0
11	28·2	2·7	8·4	— 1·7	17·2	3·5	4·0	0·0	4·4	21·8	17·0	17·6	14·7	13·2	32·0
12	28·3	8·1	20·8	15·9	19·5	11·5	6·7	4·0	6·0	15·8	12·7	12·2	8·7	4·4	25·2
13	26·2	—10·0	27·8	19·0	24·0	22·0	25·0	19·7	17·6	23·7	26·3	24·8	14·3	11·2	30·0
14	10·0	—12·9	26·0	23·7	26·4	22·5	27·0	21·0	25 0	22·2	22 5	22·4	22·7	16·8	26·8
15	0·8	—16·4	13·7	14·2	18·7	12·5	20·2	17 0	21·4	33 8	32·4	31·0	31·3	27·2	29·5
16	2·2	—20·5	15·4	17·6	15·1	18·0	22·0	20·3	23·0	23·0	19·2	16·7	17·3	13·5	29·7
17	7·8	—31·2	18·0	14·5	13·4	18·0	18·3	18·0	23·4	26·5	24·6	22·2	25 0	17·4	29·2
18	16·7	—16·5	11·4	16·2	16·7	17·5	18·3	19·5	21·1	18·1	20·1	19·3	19·0	10·4	22·8
19	19·0	—23·9	13·1	14·8	12·6	15·5	13·8	10·7	18·7	22·0	19·1	16·9	17·0	9·9	28·8
20	8·5	—26·3	7·5	17·3	18·6	16·0	23·5	21·3	22 4	23·0	25·4	11·5	18·0	13·2	21·9
21	18·0	—16·6	— 2·7	10·9	5·8	.....	18·5	15·5	18·4	28·0	20·3	20·3	21·7	14·9	30·5
22	13·0	—29·3	4·3	— 2·2	— 6·0	1·3	0·2	— 5·5	6·7	20·8	19·4	18·4	15·7	9·5	25·5
23	8·8	—31·9	— 4·4	6·6	3·2	3·6	5·8	5·9	8·5	18·0	19·5	18·3	7·7	3·0	30·5
24	12·0	—25·8	.....	—22·4	— 8·4	—24·3	—22·8	—16·3	— 8·6	7·0	0·0	— 1·0	— 0·7	— 7·7	22·5
25	15·5	—21·1	— 4·2	— 4·4	4·5	—15·6	—14 2	—13 7	— 8·2	— 1·5	— 5·1	— 5·2	— 8·7	—10·0	16·5
26	18·2	—27·6	— 7·0	— 1·7	2·0	— 6·5	— 3·5	— 5·8	— 5·6	7·4	3·2	6·0	— 4·7	— 4·2	32·0
27	25·5	—22·5	2·8	— 9·0	9·0	— 5·7	— 3·5	— 3·0	0·5	25.6	22·1	21·7	8·0	5·9	33.8
28	23·0	—11·1	5·0	3·9	14·7	—13·3	1·2	— 8·5	— 0·6	8·1	2·0	— 0·8	— 1·0	— 3·6	26·0
29	15·0	— 2·8	0·6	9·3	9·3	11·4	— 8·5	— 9·3	— 2·9	8·5	3·4	0·8	1·0	1·3	17·8
30	11·3	— 4·6	12·0	11·1	6·5	1·7	2·2	— 5·5	— 5·5	9·8	5·0	7·3	3·3	2·8	23·5
31	16·7	0·2	14 1	17·8	22·8	4·9	2·3	— 4·5	0·4	12 8	5·3	4·0	2·3	— 0·7	20·2
	21.6	— 9·0	12·1	12·9	14·2	9·0	11·9	9·6	13·6	22·2	19·4	17·9	16·5	11·9	28·4

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TABLE XIII.—January, 1873.—Daily Mean Temperatures at certain Stations in the Dominion of Canada.

	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Pictou.	Charlottetown.	St. John.	Fredericton.	Harbor Grace.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	21·6	9·5	24·0	19·8	21·2	10·2	17·8	15·0	16·2	12·7	7·8	7·4	9·0	—2·9	17·2
2	12·3	18·7	23·5	23·9	25·0	26·3	21·5	19·0	18·7	11·1	8·1	10·7	13·3	1·6	16·7
3	9·6	6·4	29·6	30·9	37·4	38·2	36·3	38·0	34·5	29·4	32·7	28·2	31·3	22·7	17·5
4	22·0	—9·9	19·5	22·0	19·4	28·7	25·0	25·8	30·1	35·9	34·2	32·4	31·7	27·6	33·8
5	24·9	—14·8	17·5	20·4	24·1	26·3	23·2	24·0	26·6	29·1	26·0	24·2	27·7	23·3	17·0
6	19·2	10·1	—2·2	0·8	17·9	—5·3	1·3	—3·5	11·9	26·5	33·9	31·1	31·7	24·1	29·5
7	8·3	3·8	20·1	18·3	19·6	5·2	3·8	—5·8	0·7	18·0	13·3	9·5	10·7	3·4	21·5
8	13·0	—17·5	17·3	15·6	20·8	19·7	18·2	·····3	9·9	17·9	12·1	10·4	14·3	8·6	23·2
9	19·5	—15·0	1·1	0·8	2·4	9·6	8·0	13·8	17·5	31·9	26·5	29·1	29·0	24·4	22·1
10	24·2	—12·3	—0·1	—1·4	—0·8	0·5	0·2	1·7	6·1	27·4	21·0	16·7	18·7	8·4	22·7
11	40·2	6·4	2·1	2·2	8·2	—8·6	3·3	1·0	5·6	14·7	8·5	8·5	7·3	0·4	20·0
12	34·0	11·8	6·3	10·6	33·3	—9·0	—3·3	—3·5	2·7	3·7	10·8	0·4	1·0	—1·5	14·5
13	28·9	—3·1	31·0	30·0	28·4	12·0	23·8	7·5	6·4	15·1	13·8	9·3	13·7	4·0	13·5
14	27·9	—10·0	3·6	11·9	28·4	9·2	15·2	13·8	22·5	34·4	27·7	26·2	30·3	25·4	20·7
15	25·0	—14·4	27·9	23·6	29·6	12·2	9·5	4·7	11·3	11·6	2·9	3·2	10·7	2·5	10·5
16	28·9	—21·0	17·9	28·3	27·3	40·5	45·2	49·8	38·8	36·0	33·9	38·4	36·0	33·8	23·2
17	31·2	—5·0	—5·8	0·7	10·1	5·5	9·7	14·0	20·8	47·3	37·8	42·1	41·0	38·9	45·7
18	37·4	9·2	—6·5	—1·2	1·1	4·4	7·3	7·0	10·7	29·5	25·8	23·6	22·7	17·5	25·9
19	44·8	15·3	10·5	3·7	6·6	5·5	10·5	10·0	13·2	31·9	27·5	25·0	33·0	29·0	29·0
20	35·2	13·7	23·0	17·5	18·9	20·5	17·0	15·0	17·9	29·5	25·8	22·6	25·7	19·4	34·9
21	36·5	—6·2	21·6	19·4	28·5	21·8	22·5	19·0	20·2	30·7	28·7	27·2	32·7	29·1	31·2
22	32·6	—17·4	6·1	11·4	25·5	14·2	18·0	15·0	24·6	33·6	31·9	29·5	28·7	24·9	30·0
23	32·0	—16·3	—3·4	1·6	12·8	—2·8	1·8	—0·2	7·2	19·4	14·6	9·9	13·0	6·5	26·0
24	29·7	—5·5	3·0	6·4	16·8	8·8	4·0	1·5	6·8	12·2	10·8	8·7	6·3	4·6	22·0
25	25·1	—4·0	1·1	4·5	10·0	11·1	9·5	9·2	16·9	28·8	26·7	23·6	17·3	16·9	29·0
26	23·1	—23·4	16·0	13·3	13·6	17·6	15·8	16·8	15·6	21·7	15·5	13·1	17·0	10·3	23·8
27	12·1	—25·3	11·1	10·8	17·9	18·5	15·5	10·2	15·8	27·7	23·2	22·4	24·0	15·4	22·5
28	23·5	—16·4	—13·8	3·7	5·6	1·5	8·5	8·3	16·8	21·9	16·6	15·7	18·7	15·3	26·5
29	26·0	6·7	—2·2	—11·4	10·6	—10·0	—8·7	—12·0	—7·4	9·7	6·7	0·9	4·0	—4·6	13·1
30	12·0	—11·9	11·6	6·7	4·3	9·8	10·0	—0·7	3·0	—2·2	—8·1	—5·0	5·3	—3·0	7·5
31	2·7	—29·0	3·5	8·7	17·9	19·0	18·3	15·2	20·9	19·0	13·3	14·6	19·3	13·4	15·3
	24·7	—4·7	10·7	11·9	15·0	11.07	13·2	11·2	15·0	23·5	21·1	18·1	20·2	14·2	23·7

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TABLE XIV.—February, 1873—Daily Mean Temperatures at certain Stations in the Dominion of Canada.

	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Picton.	Charlottetown.	St. John.	Fredericton.	Harbor Grace.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	—4·1	—16·9	—9·8	—7·1	4·0	—9·2	—1·8	—5·0	0·1	14·2	3·8	1·5	10·3	4·2	9·2
2	—0·9	—6·8	—0·9	—7·3	1·8	0·3	6·2	3·0	6·3	—1·1	—9·8	—9·1	—1·0	—6·4	1·8
3	11·5	—1·3	13·0	15·4	20·5	20·5	23·8	24·2	17·2	17·7	17·3	12·0	18·3	7·4	5·2
4	15·9	—8·1	17·9	27·0	39·0	30·5	35·5	35·7	31·8	34·6	36·4	33·9	32·3	23·8	30·2
5	28·2	8·2	15·6	14·8	25·8	10·0	19·0	16·2	30·1	28·9	19·2	18·0	25·0	15·0	33·8
6	37·5	17·5	21·5	18·2	31·4	26·3	31·3	33·5	33·4	22·9	21·6	20·5	24·3	19·3	22·5
7	26·5	1·4	31·6	30·8	24·9	30·3	26·2	18·5	23·4	31·5	23·1	15·8	30·7	19·9	25·5
8	28·1	—4·5	12·3	12·0	26·3	25·4	32·0	26·3	28·0	35·5	34·8	30·9	24·8	24·8	29·2
9	28·0	12·8	—6·7	5·6	6·9	—3·0	3·0	—0·7	9·5	32·0	31·9	28·8	30·7	21·8	32·6
10	31·8	—4·7	5·1	1·5	5·2	0·0	1·2	—5·5	3·4	15·8	12·1	7·9	7·3	4·3	33·7
11	32·2	—4·0	13·1	18·4	30·3	12·0	9·2	4·2	4·4	16·7	10·5	7·2	13·0	7·9	27·0
12	15·2	4·4	—1·2	4·0	13·7	7·2	5·2	1·3	9·3	21·7	15·9	—7·7	15·0	14·7	16·0
13	36·2	14·0	—1·0	3·1	9·6	2·3	—0·3	—4·5	7·0	6·1	—0·9	—0·7	8·7	6·4	23·5
14	39·0	18·3	0·8	2·8	16·7	—0·3	6·2	—4·5	6·9	5·1	—1·4	—1·6	7·7	2·4	14·0
15	25·0	20·3	7·6	10·3	14·2	6·4	9·5	6·0	14·2	9·9	2·5	3·6	15·3	5·3	11·2
16	29·0	27·2	18·2	16·5	27·6	20·9	23·5	18·3	19·3	21·3	20·0	16·1	22·7	17·0	14·8
17	21·9	17·1	23·9	16·1	27·1	21·6	20·0	18·0	27·9	17·3	21·6	22·6	27·7	27·7	24·2
18	19·6	0·3	29·4	29·8	31·4	24·7	27·5	14·7	25·6	11·7	2·7	3·0	15·0	12·7	23·4
19	30·9	0·1	17·1	24·0	28·5	30·9	31·7	31·5	36·2	15·9	9·2	10·1	14·0	11·0	20·5
20	43·8	—24·6	9·9	14·7	15·8	16·2	18·8	15·8	25·8	22·1	14·0	15·3	17·7	16·7	34·0
21	36·2	—24·4	7·0	13·7	13·0	19·1	24·5	20·7	17·0	23·4	15·6	17·3	18·7	18·1	30·1
22	38·2	—9·3	—6·2	—2·2	4·5	9·0	10·0	7·8	15·8	28·7	26·5	25·6	24·0	22·6	30·2
23	39·8	3·6	—8·3	—6·6	—5·4	—0·9	0·5	0·5	8·0	23·3	21·4	21·3	19·3	16·5	30·7
24	29·5	8·4	16·5	14·0	4·3	17·2	10·2	9·0	10·0	15·9	9·9	10·2	8·0	11·3	30·4
25	23·5	15·9	21·0	19·4	18·4	24·2	24·5	21·8	25·4	20·9	17·0	15·6	20·3	22·8	24·8
26	21·6	23·6	22·9	20·1	25·6	22·4	20·0	23·0	31·6	22·6	14·2	12·7	19·0	22·6	26·0
27	27·4	11·3	23·6	23·4	24·7	31·0	25·5	21·8	27·6	25·0	12·6	20·9	30·7	30·8	20·0
28	28·5	—4·1	23·7	23·8	6·7	32·0	27·2	27·5	34·3	26·7	21·5	26·6	28·7	30·7	30·8
	27·5	3·8	11·3	13·5	17·4	15·2	16·8	13·5	18·5	20·6	15·0	14·1	19·0	15·4	23·7

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TABLE XV.—March, 1873.—Daily Mean Temperatures at certain Stations in the Dominion of Canada.

	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Pictou.	Charlottetown.	St. John.	Fredericton.	Harbor Grace.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	34·1	−1·9	27·2	24·8	20·9	25·5	25·0	26·2	30 9	26·7	22 1	22·7	29.3	30·3	30 8
2	42·0	−21·7	15·8	23·2	25·0	.....	26·0	27·5	30·7	26·7	20 8	20·3	30·3	30·2	31·5
3	37·5	−16·3	−1·4	1·6	5·8	6 6	8·5	14·5	24·6	25·0	19·6	19·2	25·3	24·7	29·5
4	41·1	7·7	2·0	−2·2	2·7	5·9	4.7	6.2	19.8	18·4	13·5	13·7	16·7	18·6	33·2
5	39·4	21·7	8·6	2·5	3·5	11·7	8·5	10·7	18·5	17·5	13·1	15·8	19·7	20·3	23·1
6	38·2	26·6	29·6	17·1	21·8	19·8	20·0	24·2	24·4	25·8	24 7	24·2	24·3	24·9	25·0
7	39·5	6.9	41·5	39·2	40·9	41·6	39·8	44·5	34·1	34·0	32·7	32·3	32·3	35·6	31·0
8	35·6	5·5	19·5	25·4	36·1	38·4	34·5	36·2	35 8	35·2	37·4	34·8	35·0	38·4	33·5
9	37·8	18·5	14·7	18·3	22 7	22·0	20·8	20·5	26·9	31·8	35·5	35·2	31 3	32·3	33·8
10	32 8	15·7	27·5	22·9	25·9	30·8	27·0	28 7	31·1	28·3	26·0	24·2	23·7	23·5	31·1
11	38·5	0·8	23·9	27·7	32·1	35·1	31·8	28·5	30·7	31·3	28·0	27·0	27·0	29·9	29·0
12	41·0	16·2	25·0	22·2	23·8	30·0	27·2	31·2	33·3	37·1	37·0	34·1	34·3	32·1	31·8
13	38·6	26·5	24·9	23·2	25·5	33·7	30·7	31·5	34·9	32·9	31·3	29·3	31·7	29·4	39·0
14	38·4	27·4	31·3	29·4	31·6	31·3	32 5	33·5	35·4	29.9	29·3	29 9	30·0	29·2	30·3
15	36·8	19 2	36·4	38·6	39·2	38·0	36·0	27·5	33·4	27·8	25·3	25·0	27·3	26·9	29·1
16	43·2	22·5	26·5	22·9	33·0	29·5	29·5	25·5	29·1	30·7	31·7	30·3	30 7	30·1	25·2
17	46·0	28·4	29·1	22·7	30·1	24·2	26·5	25·0	31·2	28·4	27·5	27·4	25·7	24·6	29·4
18	51·0	9·7	33·2	29·9	32 6	27·4	26·5	25·5	28·5	26·5	25·1	25·5	27·3	26·6	30·4
19	50·2	−2·9	29·8	31·6	34·2	35·2	31·0	29·5	32.5	28 9	27·6	29·1	29·0	28·5	27·6
20	43·2	3·1	32·9	32·4	30·4	36·8	32·7	27·0	33·1	30·4	31·9	25·8	29·0	31·1	28·7
21	51·5	14·4	32·1	32·1	26·4	33.3	28 5	27·0	27·5	31·9	32 6	30·4	30·7	26 8	27·5
22	41·5	4·7	27·2	21·8	29·9	29·8	27·5	25 8	29·9	32·3	31·0	29·6	30·0	27·6	30·5
23	42·0	−6·9	10·0	15·5	28·7	26·7	25.7	26·0	32·2	30 6	28·5	24·8	29·7	29·4	30·4
24	42·1	3·5	10.4	7·5	15·8	14·5	13·0	8·5	15·4	26 5	25·5	27·5	22·3	18·3	28·5
25	44·4	−5·9	19·4	19·7	17·5	19 9	14·0	12·7	16·0	27·9	28·4	27·3	20·7	20·4	27·8
26	43·8	8·5	10·6	13·5	15·3	17·3	17·7	17·0	18·3	33 9	34·6	33·1	32·3	29·9	30·2
27	39·8	23·6	11·5	7 5	16·4	15·1	16·8	13·5	18·3	33·2	31·6	30 6	29·0	28·3	35·8
28	41·0	20·9	31·3	30·7	28·7	29·7	32·0	22·7	28 8	30·5	27·5	24·9	27·7	27·4	24·9
29	39·5	22·2	31·2	35·2	35·2	39·8	37·5	34·7	35·7	37·5	39·3	36·9	37·3	38·6	30·0
30	44·2	27·5	24·5	23·8	30·1	31·6	34·0	32·0	34·2	37·6	38·2	37·9	35·0	37·8	39·5
31	43·5	30·1	31·4	28·3	34·3	34 0	32·3	33·0	34·5	37·7	34·9	33·3	35·0	35·8	35·5
	41·2	11·2	23·1	23·0	24·6	27·2	25·8	25·2	28·7	30·1	28·6	27·8	28·7	28·6	29·7

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TABLE XVI.—April, 1873.—Daily Mean Temperature at certain Stations in the Dominion of Canada.

	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Picton.	Charlottetown.	St. John.	Fredericton.	Harbor Grace.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	42·4	35·1	33·5	35·6	33·8	38·1	33·5	35·2	38·8	32·8	29·2	28·9	32·7	35·1	32·5
2	46·0	33·9	33·8	36·4	34·8	41·3	39·2	40·2	37·7	32·0	31·1	31·5	31·3	31·9	32·7
3	43·1	34·1	31·0	29·9	37·0	39·5	35·3	38·5	36·4	40·6	36·7	36·4	37·3	39·7	34·6
4	44·8	36·1	36·0	35·9	35·5	34·9	35·0	33·8	41·1	41·1	38·2	38·2	40·7	41·1	37·0
5	44·0	33·9	35·3	38·4	36·2	40·8	32·7	34·2	36·2	36·8	29·9	29·7	37·3	37·9	35·8
6	46·5	29·1	39·5	37·8	42·4	36·0	36·0	31·5	36·8	34·8	29·0	28·5	31·0	33·6	30·0
7	47·9	24·8	35·5	37·4	46·2	39·5	34·7	34·2	35·2	37·7	32·6	33·5	34·7	37·9	32·5
8	49·7	29·3	32·5	34·9	37·8	39·1	36·5	38·0	40·5	35·6	34·2	33·2	34·7	38·0	33·3
9	51·2	33·1	34·1	35·4	36·2	39·0	37·5	40·0	36·1	35·9	32·0	30·7	35·3	37·4	29·5
10	54·5	27·1	31·1	31·9	39·8	40·3	38·2	39·8	37·8	34·9	36·4	34·1	34·7	34·6	30·0
11	49·0	32·2	34·0	42·8	43·9	42·0	43·0	42·0	43·7	42·1	35·0	35·4	36·7	41·1	34·2
12	46·1	42·3	39·5	39·8	42·4	43·1	39·8	40·5	39·6	36·3	36·9	37·7	41·3	41·8	35·7
13	48·4	43·2	42·7	39·0	43·9	44·5	37·5	38·0	38·1	35·2	37·0	35·1	35·3	33·8	35·0
14	51·2	26·2	43·0	37·9	45·8	44·3	42·0	39·8	36·8	36·5	40·6	38·9	35·3	36·9	33·0
15	57·0	27·4	42·8	37·4	42·5	44·0	40·3	43·3	46·2	36·3	34·0	32·9	35·7	35·7	33·7
16	61·0	30·0	44·5	44·7	38·4	44·0	45·3	46·7	44·9	35·6	32·9	32·4	37·7	39·2	34·2
17	58·0	43·6	35·9	36·8	37·4	45·5	38·0	42·3	43·3	39·5	32·3	.....	37·7	39·8	30·8
18	54·8	31·9	36·4	37·9	35·2	41·6	37·5	42·0	38·7	33·9	34·0	35·4	36·3	39·4	32·0
19	60·0	30·9	36·4	32·8	35·2	43·0	27·5	43·0	40·5	34·4	35·7	34·3	34·3	32·2	33·5
20	63·5	29·2	32·5	26·2	34·7	35·1	33·0	38·0	41·3	38·7	37·9	36·8	35·3	37·4	36·0
21	56·0	24·2	28·3	28·0	33·3	32·2	33·2	37·5	40·2	40·4	35·0	34·2	38·3	41·8	35·9
22	55·5	27·6	33·0	29·4	33·1	34·0	35·0	38·0	43·2	37·4	33·0	33·6	39·7	40·5	35·0
23	56·9	27·1	34·0	34·6	34·8	38·5	39·8	42·0	42·2	40·8	35·0	35·6	41·7	41·7	35·1
24	63·5	34·2	34·3	29·0	36·5	39·0	36·8	41·7	44·1	43·8	41·5	41·7	43·7	49·0	34·3
25	56·0	38·4	33·8	33·7	34·0	41·7	38·0	42·2	44·3	44·6	46·0	42·8	40·7	45·1	38·5
26	55·5	32·4	36·4	36·4	38·2	44·2	40·7	44·0	44·1	34·7	35·3	36·4	37·0	45·0	38·0
27	55·1	43·0	35·8	34·9	41·9	46·0	41·2	44·5	47·9	44·8	42·5	43·9	44·7	45·6	37·2
28	51·2	42·1	38·0	39·5	44·4	47·5	43·5	44·0	50·6	45·2	37·6	36·9	42·7	44·2	41·0
29	56·5	51·1	42·8	43·1	45·7	50·0	47·5	50·5	55·4	42·4	39·0	39·1	39·0	46·8	37·2
30	57·3	42·4	41·2	41·5	47·6	48·8	50·5	53·0	56·6	37·5	40·3	40·1	42·0	49·2	39·0
	52·8	33·2	36·2	36·8	39·2	41·2	38·7	40·7	41·9	38·1	35·4	35·4	37·5	39·8	35·4

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TABLE XVII.—May, 1873.—Daily Mean Temperatures at certain Stations in the Dominion of Canada.

	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Pictou.	Charlottetown.	St. John.	Fredericton.	Harbor Grace.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	58·6	47·4	47·8	47·4	47·7	52·0	50·2	53·5	57·9	47·4	43·9	41·7	50·3	51·2	37·2
2	55·5	55·5	45·2	38·2	41·2	43·5	37·3	42·7	43·0	44·6	35·1	34·2	41·0	42·3	38·6
3	62·2	52·6	45·7	41·6	40·8	49·8	38·2	43·8	43·0	31·8	32·9	31·9	37·0	37·8	41·2
4	57·5	48·2	42·8	48·7	48·0	54·8	48·0	52·5	54·3	33·4	30·3	29·7	39·7	41·9	31·1
5	45·5	55·2	42·7	42·6	53·2	47·8	47·8	48·7	57·2	36·9	32·8	34·0	41·0	43·3	39·5
6	53·5	56·7	44·1	49·2	49·6	49·7	47·5	49·8	55·9	42·9	34·7	35·7	41·7	40·6	37·4
7	58·1	41·6	47·5	54·8	50·0	55·7	52·3	48·0	57·1	40·9	33·5	33·5	41·3	44·8	41·0
8	60·0	38·8	42·5	49·7	45·9	53·6	53·2	54·0	57·2	43·1	42·6	43·4	40·3	50·0	34·3
9	65·2	38·6	42·4	49·0	49 3	59·2	53·5	55·5	56·6	52·6	46·5	48·0	44·7	56·6	38·3
10	66·5	50·6	39·1	45·7	52·5	53·1	51·0	56·5	54·6	43·8	44·9	49·5	49·3	56·0	38·6
11	66·9	41·1	39·1	51·9	50·0	50·4	47·5	53·8	54·8	43·9	53·0	51·5	51·3	52·1	50·0
12	58·0	34·3	42·3	48·8	48·5	55·6	46·2	50·5	53·5	47·0	54·2	51·8	48·3	54·9	41·9
13	63·8	39·1	38·1	36·6	44·5	46·6	41·2	48·2	48·1	52·2	48·4	46·6	49·7	54·3	43·3
14	62·6	45·7	40·1	37·3	40·4	41·8	40·8	41·5	43·2	48·0	44·3	43·6	42·3	42·6	39·5
15	63·0	54·0	45·0	45·1	47·0	50 4	47·7	50·0	51·1	42·6	41·8	40·7	45·0	45·4	43·3
16	64·9	53·3	50·8	49·2	51·1	52·6	50·5	53·0	55·8	49·4	42·7	39·3	45·7	48·4	42·3
17	62·1	59·1	50·5	47·0	49·0	53·2	54·0	54·8	54·4	42·3	39·0	38·9	44·3	47·0	40·5
18	53·0	56·0	51·0	49·2	51·8	53·7	51·2	54·0	55·3	48·0	43·3	41·8	48·3	52·2	41·3
19	55·0	49·6	55·5	44·7	53·4	56·3	53·5	55·3	59·5	44·0	39·2	36·8	44·7	46·4	40·8
20	57·7	54·6	53·6	61·5	55·6	60·9	57·2	55·7	59·5	43·2	37·9	39·5	46·0	48·9	38·1
21	53·7	54·4	46·5	59·3	60·9	59·4	55·5	55·0	59·0	48·8	51·5	51·6	47·3	57·2	39·5
22	63·8	56·7	50·7	65·4	63·9	63·7	60·2	62·0	57·9	48·8	54·2	50·9	43·3	52·0	50·5
23	58·9	57·0	54·5	64·8	69·7	70·7	71·5	72·7	66·6	55·2	55·0	53·4	47·7	57·9	50·0
24	63·0	61·7	51·0	55·0	64·8	64·6	64·5	65·2	66·6	54·8	60·6	58·4	47·0	59·3	47·5
25	58·0	58·4	60·3	60·0	62·5	67·8	65·3	66·2	69·3	56·3	51·9	48·0	54·7	64·6	47·5
26	47·7	60·0	56·5	63·2	65·2	68·2	68·2	66·5	70·1	60·4	55·3	54·8	51·3	67·3	46·0
27	46·8	51·3	61·0	72·0	69·6	70·1	69·8	73·5	70·6	61·3	64·3	61·3	47·3	62·0	55·0
28	49·8	48·7	54·3	59·2	64·1	67·2	64·5	69·5	69·9	57·5	66·7	61·6	46·7	65·7	49·5
29	56·0	47·9	44·8	48·1	59·0	55·6	52·8	61·7	58·9	59·9	54·0	55·0	55·3	65·1	50·1
30	54·8	60·3	49·7	41·1	47·7	48·4	47·5	47·3	52·7	56·1	49·3	48·3	52·3	51·1	46·5
31	51·1	62·1	54·3	47·5	52·0	58·8	56·0	56·5	58·2	51·2	47·5	48·8	47·7	52·9	49·5
	57·9	51·3	48·1	51·5	53·5	56·0	53·6	55·4	57·2	48·9	46·1	45·3	46·2	52·0	42·6

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TABLE XVIII.—June, 1873.—Daily Mean Temperatures at certain Stations in the Dominion of Canada.

	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Picton.	Charlottetown.	St. John.	Fredericton.	Harbor Grace.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	59·7	59·0	60·3	55·4	58·1	65·9	60·5	65·0	63·0	51·7	57·5	54·9	50·3	63·2	53·2
2	64·0	63·3	54·5	.....	61·0	60·8	59·0	57·7	60·7	47·4	45·0	43·1	49·3	49·1	48·2
3	65·0	61·4	54·2	68·1	64·9	56·0	56·3	56·5	61·9	45·0	40·8	42·5	48·3	51·0	38·8
4	63·2	60·8	58·3	63·0	66·3	63·0	63·5	64·3	58·3	51·9	50·0	49·5	44·3	47·6	46·2
5	58·3	61·3	60·2	58·9	64·4	62·5	63·5	63·5	62·9	46·9	47·0	46·7	46·0	50·7	45·0
6	60·0	69·9	57·8	61·1	63·6	64·0	66·0	63·7	63·1	49·3	54·5	54·8	47·3	53·1	48·8
7	63·5	63·4	57·5	55·3	58·1	55·5	58·0	58·0	61·6	47·7	52·6	53·4	53·0	56·6	46·0
8	64·0	59·9	57·5	61·0	60·0	64·5	65·0	63·7	66·4	51·7	48·6	47·0	54·3	56·6	41·3
9	62·5	58·4	60·5	68·5	63·6	68·0	68·2	65·5	68·4	48·3	47·0	49·7	53·0	57·8	43·1
10	66·2	57·2	57·7	62·7	63·8	68·0	61·3	71·0	72·4	48·3	53·0	56·7	53·3	58·7	59·7
11	66·8	62·7	64·4	55·1	62·1	55·0	62·3	62·5	67·8	49·7	57·2	56·6	49·3	55·4	54·7
12	66·2	62·1	57·9	59·6	58·3	58·0	58·5	61·5	62·4	58·5	54·7	55·8	58·7	60·4	54·3
13	63·5	61·2	62·3	65·4	59·4	66·1	64·7	63·0	66·5	58·0	57·8	57·6	55·1	63·2	46·8
14	61·8	64·7	60·0	68·9	65·5	69·1	66·3	67·5	57·2	53·1	57·0	58·6	55·0	60·7	55·7
15	62·0	63·1	62·8	63·8	69·9	71·5	68·5	69·5	69·0	55·0	54·3	51·5	51·0	52·1	57·2
16	62·0	69·2	65·0	66·6	70·6	68·5	64·3	66·0	69·3	62·2	65·4	64·6	51·3	64·1	52·3
17	59·8	71·2	56·4	54·6	63·8	.....	57·2	59·0	63·5	55·9	57 2	52·9	56·0	58·0	59·5
18	58·0	65·0	69·9	72·9	64·1	70·6	65·7	66·5	62·9	55·5	49·0	51·8	55·0	58·2	48·3
19	57·5	62·5	66·5	75·0	75·6	77·6	68·8	76·0	68·7	50·9	51·5	51·5	53·0	52·1	45·7
20	60·0	67·4	60·3	66·9	67·0	64·5	69·5	65·8	66·4	53·5	52·3	51·1	54·7	58·4	45·0
21	52·2	66·1	62·0	60·7	64·2	60·9	62·0	59·8	59·8	54·3	47·9	46·3	55·3	54·4	45·0
22	60·8	64·8	59·5	60·8	68·3	62·2	60·8	61·0	60·4	52·4	48·6	50·9	53·0	58·0	47·6
23	61·0	64·3	59·3	65·9	62·0	64·5	65·2	64·8	67·2	62·0	58·3	59·3	55·7	67·1	47·3
24	60·0	73·7	64·4	68·8	64·0	69·3	69·0	65·5	72·1	63·3	59·5	61·9	56·0	66·4	47·5
25	59·2	72·3	63·3	66·5	66·3	72·3	72·3	71·0	75·2	62·2	61·4	64·6	59·7	67·9	48·9
26	61·0	73·3	70·4	72·1	66·3	72·0	72·0	73·5	76·4	66·4	65·5	69·9	55·7	71·8	59·0
27	69·0	65·4	67·7	72·4	72·1	74·9	73·3	76·2	75·8	66·1	68·6	68·5	54·7	71·4	60·5
28	75·5	67·0	68·5	63·7	70·7	71·1	69·2	72·2	74·4	61·8	67·1	65·5	52·7	67·4	61·8
29	75·0	65·8	69·1	67·0	69·1	74·6	73·5	74·2	76·4	67·2	66·4	66·8	57·3	72·3	60·5
30	69·0	60·3	65·4	62·5	68·5	.....	74·7	81·0	75·8	65·0	68·8	68·1	57·0	69·4	66·7
	62·9	64·5	61·5	65·0	65·1	66·1	65·9	66·2	67·2	55·4	55·4	53·9	53·2	59·8	51·1

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TABLE XIX.—July, 1873.—Daily Mean Temperatures at certain Stations in the Dominion of Canada.

	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Picton.	Charlottetown.	St. John.	Fredericton.	Harbor Grace.
	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
1	62·0	61·6	66·0	68·4	71·1	74·5	68·0	73·5	72·6	66·3	72·7	69·7	61·3	68·7	66·6
2	66·7	65·8	68·6	69·4	69·3	73·2	74·0	75·0	72·6	63·0	71·4	67·7	56·0	69·2	66·5
3	67·0	63·4	71·0	65·3	70·5	75·6	71·5	76·0	75·6	64·4	73·0	72·5	60·0	72·1	59·6
4	65·2	54·3	73·1	73·4	72·8	77·0	70·0	72·5	73·7	65·4	73·9	70·7	55·0	72·6	61·5
5	70·8	56·6	60·3	62·3	68·5	74·8	70·3	77·0	75·9	61·1	68·1	68·4	54·0	68·9	65·0
6	74·2	63·0	59·2	56·0	57·3	62·7	59·0	63·5	69·2	59·9	64·5	64·1	57·7	66·2	.....
7	74·5	56·4	64·0	59·8	61·7	67·6	64·8	65·8	71·2	64·2	58·4	64·9	61·0	65·7	58·6
8	76·5	60·4	61·4	68·7	65·6	.....	67·0	65·2	73·9	61·7	61·4	65·2	58·7	67·3	50·5
9	76·5	58·6	62·9	62·9	61·4	68·6	67·7	61·0	68·4	59·0	60·8	63·5	59·3	67·0	52·1
10	70·6	58·4	60·9	56·2	60·5	62·5	65·5	66·0	69·3	66·1	63·7	64·0	63·0	68·7	63·3
11	66·2	63·6	60·8	54·0	57·5	61·8	61·7	59·5	66·8	59·9	65·4	64·5	61·3	66·9	67·6
12	65·7	68·2	65·4	62·3	60·7	65·9	62·3	60·7	67·5	63·6	58·0	58·4	63·0	60·7	69·6
13	67·2	63·4	66·6	76·2	68·4	72·8	70·5	72·2	70·7	64·8	64·9	65·5	59·0	65·9	56·8
14	61·5	60·5	69·7	74·6	71·5	76·7	74·0	75·3	77·4	66·4	67·9	66·6	63·0	74·0	57·5
15	68·8	72·1	70·8	71·8	73·9	72·0	71·8	70·5	75·6	68·9	67·9	65·1	62·0	71·9	50·5
16	68·3	69·2	63·4	71·1	69·6	67·2	64·5	63·5	67·4	62·1	57·3	56·1	62·0	61·5	51·9
17	73·5	60·0	64·0	63·9	75·9	60·4	59·5	60·5	62·2	55·7	61·0	49·9	59·7	59·6	47·9
18	77·0	62·1	65·0	67·8	71·5	62·7	64·0	63·2	61·0	53·0	53·1	55·3	60·3	61·4	50·8
19	77·0	68·3	55·8	56·7	50·7	68·7	61·8	66·5	64·4	56·1	56·5	59·3	55·3	56·9	55·9
20	67·8	71·5	61·1	55·2	59·1	63·7	62·5	64·5	64·0	61·7	61·8	61·0	56·7	64·1	59·4
21	65·0	75·0	62·7	60·4	61·1	66·5	65·5	66·5	69·0	62·9	66·1	64·1	61·0	65·5	62·6
22	68·5	64·9	67·5	63·6	65·3	72·3	67·5	70·5	72·4	69·2	67·1	67·1	63·3	71·1	63·7
23	68·8	70·3	69·1	73·5	73·8	79·1	71·0	77·0	75·8	67·7	72·1	70·2	61·0	76·2	58·1
24	71·5	65·7	70·5	65·5	74·2	70·6	71·7	72·8	74·2	68·8	64·2	68·3	64·3	69·4	64·2
25	77·0	63·2	67·4	63·0	72·7	73·5	74·5	75·5	73·3	65·4	63·9	66·0	59·7	65·6	59·3
26	76·8	65·0	66·8	68·7	69·0	74·2	67·0	73·0	72·0	65·9	71·6	71·1	56·3	74·0	62·1
27	81·2	65·6	64·1	63·9	69·7	70·9	67·0	71·5	73·0	64·7	67·5	65·3	56·7	70·7	66·0
28	80·2	63·2	66·8	73·3	68·2	73·6	75·5	72·5	75·8	65·0	63·5	65·1	59·7	69·3	58·8
29	80·2	59·1	67·5	69·4	72·8	77·4	72·7	77·7	74·7	59·5	63·6	68·2	62·3	64·8	58·2
30	77·8	59·3	69·9	67·7	70·2	73·3	70·5	75·5	75·8	65·0	68·4	67·1	59·3	72·3	57·5
31	74·2	60·3	71·3	72·1	70·6	75·8	74·8	76·0	77·0	68·9	66·0	72·1	69·7	73·7	64·6
	71·4	63·4	65·5	66·2	67·5	70·5	68·5	69·6	71·4	63·4	67·4	65·1	59·7	67·8	59·2

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TABLE XX.—August, 1873.—Daily Mean Temperatures at certain Stations in the Dominion of Canada.

	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Pictou.	Charlottetown.	St. John.	Fredericton.	Harbor Grace.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	75·0	60·4	76·0	67·2	71·3	73·1	68·3	71·3	69·5	64·2	66·5	67·8	62·0	66·0	58·3
2	76·5	60·7	66·2	68·8	72·0	76·5	72·5	74·8	74·2	67·6	70·4	67·6	62·3	68·1	61·5
3	74·0	66·8	61·0	63·6	70·7	68·4	67·0	69·5	70·5	69·5	69·8	70·5	58·7	72·3	67·0
4	74·0	75·9	62·9	56·7	61·5	61·9	61·0	63·0	67·6	68·7	62·1	59·1	63·3	62·9	63·5
5	72·0	73·1	68·4	61·6	62·4	68·0	65·5	65·5	68·4	69·7	55·2	58·6	58·7	62·1	49·6
6	69·0	64·3	70·5	68·9	65·2	74·1	70·5	70·0	71·3	59·1	62·1	61·4	59·0	65·[illegible]	54·9
7	64·8	64·0	[illegible]	67·3	71·1	72·0	69·2	70·1	70·6	59·5	60·9	62·3	56·3	64·2	57·5
8	69·2	73·0	67·1	66·8	69·4	67·9	67·3	65·7	71·8	66·9	65·2	67·2	60·7	67·8	60·0
9	74·8	66·8	64·0	60·0	65·1	63·7	63·0	62·7	67·7	66·2	60·8	61·1	62·3	62·0	62·4
10	76·5	65·2	71·4	61·0	65·7	65·9	63·7	63·8	68·8	63·0	61·9	62·4	59·7	62·7	62·6
11	76·8	72·4	66·9	61·5	69·4	70·0	65·8	69·5	71·3	61·7	59·0	61·5	61·7	64·9	61·0
12	71·8	62·0	67·2	60·6	62·0	68·0	61·8	65·2	72·2	63·6	60·6	63·7	62·3	64·2	59·0
13	73·0	70·1	65·5	61·8	60·4	69·0	65·0	66·[illegible]	72·2	61·8	60·8	56·2	61·3	67·4	63·5
14	76·2	64·4	69·8	62·5	65·4	68·1	65·0	[illegible]	70·5	62·6	60·5	58·9	63·7	64·4	64·8
15	78·5	62·6	69·2	66·6	64·1	66·7	64·0	[illegible]	68·6	65·9	69·2	68·7	68·3	69·8	65·2
16	79·0	60·9	60·2	57·9	61·0	[illegible]	62·3	[illegible]	68·9	67·6	74·6	70·9	57·7	67·8	68·6
17	79·2	62·6	62·0	58·2	56·2	[illegible]	63·5	66·0	69·8	65·8	69·2	67·3	64·0	66·4	68·8
18	75·2	60·1	56·1	65·6	60·0	66·6	62·5	63·3	70·5	64·1	63·7	64·2	63·0	67·4	64·4
19	72·5	67·7	71·6	68·6	67·3	67·1	63·3	60·0	61·4	63·2	64·6	64·3	58·7	59·4	57·0
20	69·0	61·4	70·2	72·0	69·2	71·4	68·8	66·5	69·8	65·3	63·4	62·9	63·3	63·7	58·8
21	71·0	53·5	70·5	74·5	72·5	74·0	72·5	72·5	72·7	63·1	63·9	62·5	60·7	65·6	55·3
22	72·2	57·1	67·8	69·5	71·8	72·6	70·5	73·0	73·9	62·2	62·4	62·5	[illegible]	63·9	55·0
23	69·2	60·4	61·5	55·3	68·2	57·6	56·5	57·8	62·3	64·2	63·5	63·1	59·0	60·8	56·8
24	70·5	54·6	57·9	53·6	60·5	57·3	56·0	56·0	64·4	58·8	60·7	59·9	52·3	52·2	59·0
25	68·2	58·1	62·8	62·0	56·7	65·7	62·5	59·5	65·4	55·5	52·1	50·9	50·3	50·2	56·2
26	59·0	62·6	64·6	63·2	63·3	61·7	59·2	56·8	66·7	51·3	49·8	49·5	51·3	50·4	57·0
27	59·0	68·1	57·5	58·8	60·6	61·9	58·0	58·3	67·7	53·5	52·1	51·8	55·3	56·8	55·0
28	59·2	65·5	65·4	66·1	66·8	66·6	63·5	63·0	69·7	59·9	57·8	60·1	56·0	60·2	55·6
29	64·2	56·9	72·0	69·7	66·3	69·0	66·5	66·8	71·6	64·2	64·0	65·8	56·7	65·7	54·0
30	69·5	57·4	67·4	71·6	71·7	74·2	69·7	73·0	73·4	60·7	63·5	63·8	56·0	68·3	58·7
31	70·8	57·2	64·8	63·5	68·7	64·3	61·5	64·3	69·1	67·3	62·5	57·8	59·0	60·4	61·5
	71·1	63·7	66·1	64·9	65·9	67·6	64·7	65·6	69·4	62·9	62·5	62·8	59·4	63·4	59·8

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TABLE XXI.—Means of Daily Temperature at the Stations in Tables IX. to XX., collected in Five Day periods for the Year, September, 1872, to August, 1873, inclusive.

FIVE DAY PERIODS.	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Woodstock.	Fitzroy Harbor	Brockville.	Huntingdon	Montreal.	Halifax.	Pictou.	Charlottetown	St. John.	Fredericton.	Harbor Grace.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Sep. 3 to 7, inclusive	69·5	63·9	60·4	60·9	64·7	63·6	67·8	61·7	63·3	53·0	57·8	.....	53·6	54·9	60·7
„ 8 „ 12 „	66·5	56·1	62·1	65·8	68·2	69·1	66·9	67·1	67·2	54·5	56·2	.....	55·8	60·1	53·5
„ 13 „ 17 „	65·9	53·6	53·0	49·1	55·6	56·9	55·5	58·9	61·0	58·4	59·6	.....	56·2	57·3	58·1
„ 18 „ 22 „	58·2	47·6	55·2	52·1	58·4	56·5	55·1	57·7	59·2	53·4	56·0	.....	54·5	56·1	57·7
„ 23 „ 27 „	51·7	40·7	55·4	57·1	59·1	61·4	60·5	61·3	63·2	56·3	59·9	.....	56·1	55·6	58·1
„ 28 „ Oct. 2 „	60·5	46·9	49·2	46·6	48·2	52·9	51·5	53·2	55·0	59·0	61·1	.....	56·4	55·3	59·5
Oct. 3 „ 7 „	56·0	47·8	51·3	48·5	54·1	50·9	52·9	54·3	55·3	51·3	50·7	.....	50·3	50·7	51·8
„ 8 „ 12 „	49·1	38·1	43·2	41·4	44·7	44·7	43·8	47·2	47·3	51·3	51·5	....	48·7	47·5	57·6
„ 13 „ 17 „	55·1	40·5	38·0	37·7	39·2	41·7	39·5	43·7	41·7	49·0	48·1	.....	45·2	43·4	53·7
„ 18 „ 22 „	44·9	41·3	46·0	42·1	44·5	46·4	45·4	47·1	47·4	47·3	47·4	.....	44·3	42·4	51·0
„ 23 „ 27 „	44·6	46·2	44·3	42·0	43·8	43·8	42·0	44·6	46·1	48·7	46·7	.....	45·2	43·6	46·0
„ 28 „ Nov. 2 „	42·2	39·9	43·2	35·3	38·9	39.0	37·1	39·6	42·2	42·2	41·4	43·1	38·4	37·4	39·1
Nov. 3 „ 7 „	42·3	35·3	41·7	38·2	39·8	41·2	39·2	42·4	41·5	39·1	39·6	38·8	43·7	37·9	25·8
„ 8 „ 12 „	22·6	22·8	39·0	37·0	38·6	39·6	38·2	40·6	40 3	40·8	39·6	47·9	39·7	37·9	41·1
„ 13 „ 17 „	16·5	16·8	29·4	28·9	27·4	32·2	30·0	32·2	32·8	39·2	38·5	37·5	37·3	33·4	41·1
„ 18 „ 22 „	31·1	13·3	22·7	23·1	23·7	26·0	24·3	28·9	28·0	34·1	31·5	31·9	38·2	28·8	35·2
„ 23 „ 27 „	20·5	1·2	29·5	28·2	29·4	29·2	31.2	81·3	32·9	34·5	31·4	30·8	32·7	29·9	29·7
„ 28 „ Dec. 2 „	30·3	8·8	15·0	18·9	18·8	16·9	20·9	19·6	24·9	33·4	32·3	29·8	27·9	24·0	35·2
Dec. 3 „ 7 „	37·3	13·0	23·5	22·8	26·1	17·9	23·4	19·9	24·1	25·9	25·7	25·8	26·5	19·8	32·1
„ 8 „ 12 „	31·2	—1·5	2·3	9·5	16.9	11·6	11·8	10·7	13·4	26·9	23·9	22·6	22·6	18·2	31·5
„ 13 „ 17 „	9·4	—18·2	20·2	17·8	19·5	18·6	22·5	19·2	22·1	25·8	25·0	23·4	22·1	17·2	29·0
„ 18 „ 22 „	15·0	—22·5	6·7	11·4	9·5	12·6	14·9	12·3	17·5	22·4	20·9	17·3	18·3	11·6	25·9
„ 23 „ 28 „	17·2	—23·3	—1·6	—4·5	4·2	—10·3	—6·2	—7·1	—2·3	10·8	6·9	6·5	0·1	—2·8	26·9
„ 29 „ Jan. 2 „	17·4	4·3	14·8	16·4	17·0	10·9	7·1	3·0	5·4	11·0	5·9	6.0	5·8	0·0	19·1
Jan. 3 „ 7 „	16·8	—0·9	18·7	18·5	23·7	18·6	18·0	17·5	20·5	29·8	28·0	25·1	26·6	20·2	23·9
„ 8 „ 12 „	26·2	5·3	6·1	5·8	5·3	2·4	5·3	2·2	8·4	19·1	17·0	13·0	14·1	8·1	22·3
„ 13 „ 17 „	28·4	—6·7	14·9	18·9	27·7	15·5	20·7	17·8	20·0	29·0	25·0	22·0	26·3	20·9	24·5
„ 18„ 23 „	37·3	3·1	12·1	9·8	16·2	13·8	15·1	13·2	17·3	31·6	29·9	27·6	28·6	24·0	30·2
„ 23 „ 27 „	23·0	—14·9	5·2	7·3	14·2	10·6	9·3	7·5	12·1	22·0	18·2	15·5	15 5	10·7	26·1
„ 28 „ Feb. 1 „	12·0	—13·5	—2·1	0·1	4·2	2·2	5·3	0·2	6·7	12·5	6·5	5·5	11·5	5·1	14 3
Feb. 2 „ 6	18·4	1·9	13·4	13·6	23·7	17·5	23·2	22·1	23·8	20·6	16·9	14·7	19·8	11·8	18·6

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" 7 " 11 "	29·3	2·1	10·7	13·7	19·5	14·9	14·3	0·8	13·7	26·5	22·5	18·1	22·3	15·7	29·6
" 12 " 16 "	34·9	16·8	5·4	7·3	16·4	7·3	8·8	8·3	11·3	12·8	7·2	5·0	13·9	9·2	15·9
" 17 " 21 "	30·5	6·3	17·5	19·7	23·2	22·5	24·5	20·1	26·1	20·1	12·6	13·7	18·1	17·2	26·4
" 22 " 26 "	30·5	8·4	11·2	8·9	9·5	14·4	13·0	12·4	18·2	22·3	17·8	17·1	17·1	19·2	28·4
" 27 " Mar. 3 "	33·9	6·5	17·6	19·4	16·6	23·8	22·4	23·5	29·6	26·0	19·3	21·9	28·9	29·3	28·5
Mar. 4 " 8 "	38·4	13·7	20·2	16·4	21·0	23·5	21·5	24·4	26·5	26·2	24·3	24·2	21·6	27·6	29·2
" 9 " 13 "	37·5	15·5	23·2	22·9	26·0	30·5	27·5	28·1	31·4	32·3	31·6	30·0	29·6	29·4	32·9
" 14 " 18 "	43·1	21·4	31·3	28·7	33·3	30·1	30·2	27·8	31·5	28·7	27·9	27·6	28·2	27·5	28·9
" 19 " 23 "	45·7	9·5	26·4	26·7	29·9	28·4	29·1	27·1	31·0	30·8	30·3	27·9	29·7	28·7	28·9
" 24 " 28 "	42·2	8·7	16·6	15·8	18·7	19·3	18·7	14·9	19·4	30·4	29·5	28·7	26·4	24·9	29·3
" 29 " Apl. 2 "	43·1	29·8	30·9	31·9	33·6	37·0	35·3	35·0	36·2	35·5	34·5	33·7	34·3	35·8	34·0
April 3 " 7 "	45·3	31·6	35·5	35·9	39·5	38·1	34·7	35·0	37·9	38·2	33·3	33·3	36·2	38·0	34·0
" 8 " 12 "	50·1	32·8	34·2	37·0	40·0	40·7	39·0	40·1	39·5	37·0	34·9	34·2	36·5	38·6	32·5
" 13 " 17 "	55·1	34·1	41·8	39·2	41·6	44·5	40·6	42·0	41·9	36·6	35·4	27·9	36·3	37·1	33·3
" 18 " 22 "	48·4	28·8	33·3	30·9	34·3	37·2	35·2	39·7	40·8	37·0	35·1	34·9	42·8	38·3	34·7
" 23 " 27 "	57·4	35·0	34·9	33·7	37·0	41·9	39·3	42·9	44·5	41·7	40·1	40·1	41·6	45·3	36·6
" 28 " May 2 "	55·8	47·7	43·0	41·9	45·3	48·4	45·8	48·7	52·5	43·4	39·2	38·4	43·0	46·7	38·6
May 3 " 7 "	55·4	50·9	44·6	47·4	48·3	51·6	46·8	48·6	53·5	37·2	32·8	33·0	40·1	41·7	38·0
" 8 " 12 "	63·3	40·7	41·1	49·0	49·2	54·4	50·3	54·1	55·3	46·1	48·2	46·8	46·8	53·9	46·0
" 13 " 17 "	63·3	50·2	44·9	43·0	46·4	48·9	46·8	49·5	50·5	39·1	43·2	41·8	45·4	47·5	41·8
" 18 " 22 "	56·6	54·3	51·5	56·0	57·1	58·8	55·5	56·4	58·2	46·6	45·2	44·1	45·9	51·3	42·0
" 23 " 27 "	54·9	57·7	56·7	63·0	66·4	68·3	67·9	68·8	68·6	57·6	57·4	55·2	49·6	62·2	49·2
" 28 " June 2 "	51·3	55·6	52·7	49·3	56·2	59·2	56·1	60·0	60·5	55·3	55·0	53·7	50·5	59·6	49·8
June 3 " 7 "	62·0	63·4	57·6	61·3	63·5	60·2	61·5	61·2	61·6	48·2	49·0	49·4	47·8	51·8	45·0
" 8 " 12 "	65·1	60·1	57·6	61·4	61·6	62·7	63·5	64·8	69·5	51·3	52·1	53·2	53·7	57·8	50·6
" 13 " 17 "	61·8	65·9	61·3	63·9	65·8	68·8	64·2	65·0	67·1	56·8	58·3	57·0	53·8	59·6	54·3
" 18 " 22 "	57·7	65·2	63·6	67·3	65·8	67·2	65·4	65·8	63·6	63·3	49·9	50·3	54·2	56·2	46·3
" 23 " 27 "	62·0	69·8	65·0	69·1	66·1	70·6	70·4	70·2	73·3	64·0	62·7	64·8	56·4	68·9	52·6
" 28 " July 2 "	69·6	64·1	67·5	66·0	69·7	73·4	71·9	75·2	74·4	63·7	69·3	67·6	56·8	69·4	64·0
July 3 " 7 "	70·3	58·7	65·5	63·4	66·2	71·5	67·1	71·0	73·1	63·0	67·5	68·1	57·5	69·1	61·2
" 8 " 12 "	71·0	61·4	62·3	58·8	60·7	64·7	64·8	62·5	69·2	62·1	61·9	63·1	61·1	66·1	60·6
" 13 " 17 "	67·9	65·0	66·5	71·5	71·9	69·8	68·1	68·4	70·7	63·6	63·8	61·1	59·1	66·6	52·9
" 18 " 22 "	71·1	68·4	62·4	60·7	63·3	66·8	64·3	66·2	66·2	60·6	60·9	61·4	59·3	63·8	56·5
" 23 " 27 "	75·1	66·0	67·6	66·9	71·9	73·7	70·2	74·0	73·7	66·5	67·9	68·2	59·6	71·2	61·9
" 28 " Aug. 2 "	77·3	60·5	69·6	69·8	70·9	74·9	72·4	74·6	74·5	65·0	66·4	68·0	62·6	69·0	59·8
Aug. 3 " 7 "	70·8	68·8	66·5	63·6	66·2	68·9	66·6	67·7	69·7	62·0	62·0	62·4	59·2	65·5	58·5
" 8 " 12 "	73·8	67·9	67·3	61·8	66·3	67·1	64·3	65·4	70·2	64·3	61·5	63·2	61·3	64·3	61·0
" 13 " 17 "	77·2	64·1	65·3	61·4	61·4	67·0	62·6	66·2	69·5	65·1	68·1	68·4	63·0	67·2	66·2
" 18 " 22 "	72·0	60·0	67·2	70·0	68·2	70·3	67·5	67·1	69·7	63·6	63·6	60·9	64·0	64·0	58·1
" 23 " 27 "	65·2	60·8	60·9	58·6	61·9	60·8	58·4	57·7	65·3	56·7	55·6	55·0	53·6	54·1	56·8
" 28 " Sep. 2 "	66·9	63·5	66·2	64·9	66·9	65·0	62·9	63·9	67·7	60·5	61·2	61·9	55·8	61·4	58·5

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TABLE XXII.—Percentage of Cloud in each Month, and in the Year at certain Stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive.

	1872.				1873.								
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.
ONTARIO.													
N. and N. W. District.													
Windsor	49	55	71	68	87	65	72	79	64	45	59	46	63
London	..	50	71	83	....	....	....	72	52	47	54	36	....
Granton	....	....	....	....	....	....	....	70	46	47	49	41	....
Simcoe	39	52	70	83	86	48	62	60	41	27	34	22	52
Woodstock	50	54	68	77	82	61	66	67	50	46	51	43	60
Hamilton	54	53	67	79	77	64	64	61	51	41	41	37	57
Mean of District	48	53	69	79	83	59	66	68	51	42	48	37	59
W. and S. W. District.													
Little Current	62	51	72	73	68	49	59	67	46	45	45	42	57
Point Clark	56	60	81	87	84	52	56	61	49	46	50	44	61
Stratford	48	65	61	88	82	59	62	70	55	42	52	44	61
Kincardine	53	32	78	83	86	45	56	57	40	34	30	30	52
Goderich	59	54	84	92	86	60	68	65	66	44	51	43	64
Gravenhurst	58	48	76	78	67	51	58	60	49	33	41	45	55
Barrie	56	49	80	84	77	62	63	64	54	48	48	44	61
N. Gwillimbury	54	48	80	82	75	58	65	52	47	29	38	41	56
Mean of District	61	51	76	83	78	55	61	62	51	40	44	42	59
*Toronto	58	51	68	75	73	59	67	48	55	46	55	48	58
E. and N. E. District.													
Cornwall	76	64	87	73	78	61	62	72	60	54	59	54	67
Peterborough	56	52	68	69	76	59	61	61	47	42	53	51	58
Belleville	43	37	68	67	76	48	58	60	40	36	40	46	52
Brockville	53	47	74	63	77	54	63	65	53	34	46	44	56
Fitzroy Harbor	60	55	72	52	62	53	55	64	49	26	42	39	52
Pembroke	73	70	87	70	73	53	70	70	....	....	....	....	....
Ottawa	68	68	93	75	77	63	69	71	65	54	60	56	68
Mean of District	61	56	78	67	74	56	63	66	53	41	50	48	59
Mean for Ontario	57	53	73	76	77	57	64	61	53	42	49	44	59
QUEBEC.													
Huntingdon	51	49	66	56	63	43	50	53	68	27	36	35	47
Quebec	66	46	66	60	70	50	63	58	48	56	52	46	57
Montreal	32	41	59	61	54	39	52	58	39	21	33	25	43
Mean for Quebec	50	45	64	59	62	44	55	56	42	35	40	35	49
NEW BRUNSWICK.													
St. John	71	54	73	56	58	59	59	69	53	57	61	59	61
Bass River	79	48	57	55	50	51	59	64	43	47	54	50	56
Fredericton	70	51	60	58	55	55	65	67	48	44	46	50	56
Bathurst	59	42	64	49	54	46	45	54	34	37	42	51	48
Mean for New Brunswick	70	49	64	54	54	53	57	63	45	46	51	53	55

*Toronto has been assumed to represent the Central District of Ontario.

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TABLE XXII.—Percentage of Cloud in each Month, &c.—*Continued*

	1872.				1873.								
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.
NOVA SCOTIA.													
Halifax	55	48	66	62	56	57	57	67	52	60	59	57	58
Glace Bay	56	51	72	71	...	60	65	70	57	60	58	57	...
Pictou	67	60	73	73	67	62	70	69	49	61	59	53	64
Sydney	53	49	65	72	59	54	54	64	46	60	40	55	56
Guysborough	52	52	66	67	61	59	66	66	48	48	51	52	57
Wolfville	58	59	63	84	63	64	52	69	44	51	...	....	....
Digby	51	43	62	76	62	62	59	58	38	38	40	40	52
Mean for Nova Scotia	56	52	67	72	61	60	60	66	48	54	51	52	58
MANITOBA.													
Winnipeg	59	45	71	44	53	[illegible]	41	39	57	41	43	35	49
St. John's College	63	49	71	51	62	64	49	43	55	37	46	36	52
PRINCE EDWARDS ISLAND.													
Charlottetown	66	59	65	71	62	57	66	70	54	56	55	55	61
BRITISH COLUMBIA.													
Spence's Bridge	43	37	45	61	54	34	62	47	52	53	39	40	47
NEWFOUNDLAND.													
St. John's	57	54	70	70	67	74	55	71	58	59	68	53	63
Harbor Grace	54	57	71	73	61	68	67	75	65	64	70	61	65
Fogo	....	58	80	....	....	58	58	63	59	45	67	43	....
Mean for Newfoundland	56	56	74	71	64	67	60	70	61	56	68	52	63

* Month incomplete.

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TABLE XXIII.—Rainfall in each Month and in the Year, at the several Stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive, the stations in Ontario and Nova Scotia being divided into districts.

	1872.				1873.								
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.
ONTARIO.													
W. and S. W. District.													
Windsor	3·63	1·33	0·46	0·00	1·66	0·08	1·18	3·83	2·66	3·47	2·55	0·19	21·04
Glencoe	0·64	0·97	0·19	0·21	1·47	0·54	2·72	0.70	0·70	0·82	....	....	....
London	3·98	2·17	0·65	R	....	....	....	2·83	2·17	3·78	2.49	2·46	.....
Granton	....	....	....	....	2·11	0·15	1·49	2·45	2·06	3·90	2·92	3·23	.....
Woodstock	4·92	2·49	0·63	0·22	1·43	0·15	1·55	3·10	3·32	3·64	2·69	3·13	27·27
Plattsville	4·18	2·46	0·75	0·00	....	....	....	....	....	....	....	....	.....
Ingersoll	7·65	2·37	0·52	0·00	0·97	R	1·20	3·48	4·79	4·00	3·28	1·56	29·82
Simcoe	5·58	3·29	0·69	0·44	1·68	0·00	2·86	3·02	3·27	4·03	3·52	2·87	31·25
Ailsa Craig	6·92	....	....	0·00	1·20	0·40	1·28	...	1·09	4·69	...	....	.....
Dundas	3·26	3·50	R	....	...	R	2·06	4·43	1·16	2·82	2·93	2·18	.....
Hamilton	2·97	3·50	0·60	R	1·43	0·08	2·63	3·54	2·12	3·57	4·39	2·50	27·33
Mean for District	4·37	2·45	0·50	0·22	1·49	0·16	1·89	3·04	2·33	3·47	3·22	2·26	25·40
N. and N. W. District.													
Little Current	4·02	0·23	2·44	0·00	1·78	0·00	0·25	1·36	4·51	1·61	2·22	2·97	21·39
Point Clark	1·57	4·74	1·98	0·00	2·47	0·00	1·90	3·86	4·06	2·71	5·67	2·17	31·13
Seaforth	...	...	...	0·00	1·62	0·00	3·00	0·44	2·20	2·15	2·12	3·85	.....
Parkhill	6·87	3·67	0·00	0·00	0·04	0·00	0·70	3·35	....	....	....	....	.....
Lucan	2·69	2·68	0·96	0·00	0·38	0·70	1·16	2·13	2·69	2·73	....	....	.....
Stratford	7·16	2·47	0·57	0·00	2·52	0·15	1·60	4·01	2·94	2·39	3·39	2·60	29·80
Kincardine	7·68	1·58	0·95	R	2·65	R	2·20	2·35	3·98	2·38	4·11	2·02	29·90
Goderich	6·31	2·19	0·61	R	2·03	0·00	0·81	2·52	1·32	1·68	1·25	1·02	19·74
Orillia	4·10	3·11	.	0·00	R	R	R	0·61	1·90	1·71	2·04	1·82	.....
Collingwood	3·80	4·03	0·39	R	R	....	....	....	....	....	....	....	....
Gravenhurst	4·22	3·09	0·92	0·00	1·99	0·03	0·91	3·23	2·41	1·79	4·57	2·05	25·21
Barrie	3·86	3·15	0·87	0·00	0·84	0·00	0·00	imp	1·51	3·50	1·46	2·20	17·39
N. Gwillimbury	4·26	3·29	0·64	0 00	2·05	R	0·40	3·95	0 94	2·40	1·80	1·00	20·73
Georgina	3·74	3·10	0·63	R	1·67	R	0·61	3·14	1·77	2·84	1·88	0·86	20·24
Mean for District	4·63	2·87	0·91	R	1·43	0·07	1·04	2·58	2·52	2·32	2·77	2·05	23·19
Central District.													
Newmarket	3·80	2·94	....	R	....	....	....	....	1·08	3·19	2·22	1·68	.....
Brampton	2·62	3·03	0·25	0·00	1·85	R	0·70	3·45	2·48	1·45	2·52	2·00	20·35
Toronto	2·53	3·29	0·42	0·39	1·11	0·00	1·76	3·97	2·21	0·68	1·91	1·91	20·18
Markham	2·94	3·01	0·58	0·44	....	....	....	....	....	....	....	....	.....
Welland	....	....	0·74	0·41	0·69	0·76	3·49	3·24	1·68	1·62	2·91	2·69	....
Mean for District	2·97	3·07	0·50	0·25	1·22	0·25	1·98	3·55	1·86	1·74	2·39	2·07	21·85
N. E. and E. District.													
Oshawa	2·94	3·45	0·40	0·58	1·25	....	....	....	1·68	1·80	....	0·67	.....
Cornwall	3·68	4·09	1·51	0·17	0·18	0·09	1·24	2·62	1·00	1·09	5·17	1·95	22·79
Peterborough	3·86	2·66	0·48	R	0·67	R	0·42	3·15	0·50	1·48	2·10	1·74	17·06
Belleville	3·66	3·40	0·63	0·15	1·80	0·08	1·92	1·94	0·99	2·14	1·70	2·17	20·58
Brockville	3·15	4·53	1·03	0·98	0·68	0·00	2·25	2·76	1·06	1·66	3·93	1·52	26·55
Fitzroy Harbor	3·17	3·67	0·56	0·00	1·24	R	1·20	1·78	1·55	1·40	3·08	2·79	20·44
Pembroke	3·69	3·35	0·44	0·00	...	0·60	0·00	1·77	....	....	....	....	.....
Ottawa	3·35	3·62	0·97	0·00	0 85	0·00	1·82	1·23	2·23	1·18	2·95	1·67	19·87
Mean of District	3 44	3·60	0·75	0·24	0·95	0·02	1·26	2·18	1·29	1·54	3·13	1·79	20·19
Mean for Ontario	3·85	3·00	0·67	0·18	1·27	0·13	1·54	2·84	2·00	2·27	2·88	2·04	22·67

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TABLE XXIII.—Rainfall in each Month and in the Year, &c.—*Continued.*

	1872.				1873.								
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.
QUEBEC.													
Quebec	4·27	2·60	0·80	0·00	R	0·00	R	1·94	5·07	3·03	4·11	3·45	25·27
Huntingdon	4·63	5·00	1·98	0·40	1·00	0·00	0·45	2·78	0·68	1·68	2·90	4·07	25·57
Montreal	6·45	6·13	2·91	R	1·07	0·09	1·79	3·02	1·42	1·07	2·55	1·72	28·22
Richmond	4·30	4·00	2·78	0·00	....	....	....	....	....	....	....	....	....
Danville	4·59	1·98	3·62	0·00	1·60	0·50	R	R	1·56	2·70	3·18	0·93	20·66
Carleton	3·89	6·08	2·58	4·68	2·65	....	....	....	2·81	1·77	...	1·89	.....
Chicoutimi	....	....	....	....	....	....	....	....	0·74	1·56	....	0·81	....
Charlesbourg	3·67	3·14	....	....	...	..	....	....	3·11	2·96	3·51	2·16	.....
Lotbiniere	...	....	....	....	....	....	....	....	....	0·23	3·18	1·97	.....
Point aux Trembles	2·91	3·37	2·35	....	....	....	....	....	1·38	3·50	....	3·43	.....
Levis	3·12	2·50	2·19	0·00	0·08	0·00	0·02	2·11	4·13	4·13	5·77	2·80	26·85
Cape Rozier	0·52	2·15	0·78	0·00	0·47	0·00	0·00	0·00	1·39	0·54	0·51	4·42	10·68
Mean for Quebec	3·84	3·59	2·22	0·64	0·90	0·10	0·38	1·64	2·23	2·11	3·21	2·51	23·37
NOVA SCOTIA.													
W. and S. W. District.													
Yarmouth	....	....	....	....	....	1·58	1·65	3·45	1·83	3·30	1·41	....	.....
Digby	3·11	4·32	5·73	R	....	...	....	....	....	....	...	....	.....
Mean for District	3·11	4·32	5·73	R	....	1·58	1·65	3·45	1·83	3·30	1·41	....	....
Central District.													
Halifax	1 41	4·88	5 71	2·87	4·78	0·49	2·46	1·93	1·58	2·96	3·90	4·45	37·42
Windsor	2·20	....	....	....	....	....	....	....	....	....	....	....	.....
Truro	1·50	7 22	7·31	0·85	3·35	0·39	1·64	1·86	1·39	2·01	4·24	3·17	34·93
Pictou	2·42	4·81	4·43	0·62	2·92	0·46	0·47	1·08	1·27	2·70	5·34	5·18	31·70
Seaforth	0·67	4·86	5·03	1·63	3·97	0·72	1·46	2·70	2·53	2·11	4 39	3·79	33·86
Beaver Bank	2·29	5·70	5·79	1·85	3·20	....	1·30	1·71	1·84	3·06	4·20	3·42	.....
Wolfville	2·43	5·31	4·25	0·74	3·32	0·65	0·95	2·28	1·43	2·08	....	....	.....
Mean of District	1·85	5·46	5·42	1·43	3·59	0·54	1·38	1·93	1·67	2·49	4·41	4·00	34·17
N. E. and E. District.													
Guysborough	4·46	5·51	7·24	1·69	4·95	1·28	3·35	5·52	1·18	2·93	7·58	5·13	50·82
Sydney	5·37	5·61	5·98	2·02	4·69	1·35	2·21	3·62	1·78	2·80	. .	4·34	.....
Glace Bay	5·66	6·71	5·76	2·65	....	0·86	3·08	2·59	1·86	2·96	8·84	4·47	.....
Cow Bay	....	...	....	....	....	...	1·59	3·95	1·13	2·59	6·16	....	.....
Mean of District	5·16	5·94	6·33	2·12	4·82	1·16	2·56	3·92	1·49	2·82	7·53	4·65	48·50
Mean for Nova Scotia	3·37	5·24	5·83	1·18	4·20	1·09	1·86	3·10	1·66	2·87	4·45	4·33	39·18
NEW BRUNSWICK.													
St. John	4·87	6·72	6·66	0·81	5·02	0·61	1·34	2·03	1·83	4·65	4·18	2·78	41·50
Bass River	3·54	6·14	4·73	0·00	0·86	0·47	0·61	1·19	1·07	3·15	3·05	...	.....
Fredericton	3·67	7·79	5·72	0·00	1·84	0·00	1·07	1·81	1·78	4·46	4·47	1·52	34 13
Bathurst	1·72	6·68	3·02	0·00	0·09	0·00	1·03	0·65	1·77	2·65	2·03	2·70	22·34
Dorchester	3·34	7·85	5·65	1·14	4·27	0·54	1·25	2·72	2·28	4·84	2·25	1·62	40·73
Dalhousie	1·89	....	...	....	..	....	....	....	....	1·12	1·30	1·66	.....
Mean for New Brunswick	3·17	7·04	5·16	0·39	2·42	0·32	1·06	1·68	1·75	3·48	2·88	2·66	32·01

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TABLE XXIII.—Rainfall in each Month and in the Year, &c.—*Continued.*

	1872.				1873.								
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.
PRINCE EDWARD ISLAND.													
Charlottetown	3·19	4·37	2·71	0·49	2·50	0·27	0·44	2·31	1·31	4·00	3·06	3·97	28·95
MANITOBA.													
Winnipeg	7·25	1·55	0·00	0·00	0·00	0·00	0·00	0·87	2·38	3·37	3·55	1·17	20·14
St. John's College	5·43	1·57	R	0·00	0·00	0·00	0·00	0·10	1 70	3·78	4·77	3·77	21·12
NEWFOUNDLAND.													
St. John's	4·24	9·84	2·72	7·98	2·27	1·14	5·00*	1·27	1·18	1·73	3·11	2·58	43·06
Harbor Grace	3·80	6·76	3·31	1·78	1·57	0·73	1·16	1·01	1·88	1·34	3·29	2·47	29·10
Fogo	....	...	..	...	....	....	....	....	....	....	3.35	1·98	... .
BRITISH COLUMBIA.													
Spence's Bridge	....	....	...	....	....	....	....	....	....	0·59	0·13	0·34	.....

* Snow included.

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TABLE XXIV.—Quarterly Rainfall at the several Stations, with the Fall of Snow in each month, and the Total Precipitation of Rain and Melted Snow, from September, 1872, to August, 1873, inclusive.

	Quarterly Depth of Rain in Inches.				Depth of Snow in Inches.										Total Precipitation.
					1872.			1873.							
	Sept. to Nov., 1872.	Dec., 1872, to Feb., 1873.	March to May, 1873.	June to Aug., 1873.	October.	November.	December.	January.	February.	March.	April.	May.	Total.		
ONTARIO.															
W. and S. W. District.															
Windsor	5·42	1·74	7·67	6·21	0·0	13·5	24·0	33·0	6·3	17·0	7·5	0·0	101·3	31·17	
Glencoe	1·80	1·68	3·96	.....	S.	4·5	38·0	22 0	2·0	11·0	3·0	0·0	80·5	.....	
London	6·80	.....	.....	9·73	S.	8·5	38·0	.....	.....	.....	S.	0·0	.....	.....	
Granton	.....	.....	6·00	10·05	.....	.....	.....	26·0	11·0	29·0	S.	0·0	.....	.....	
Woodstock	8·04	1·80	7·97	9·46	0·0	10·3	39·0	33·1	7·8	22·5	1·5	0·0	114·2	38·69	
Plattsville	7·39	.....	.....	.....	S.	4·5	32·5	.....	.....	.....	.....	.....	.....	.....	
Ingersoll	10·54	0·97	9·47	8·84	S.	4·0	50·0	.....	9·0	15·0	S.	0·0	.....	.....	
Simcoe	9·56	2·12	9·15	10·42	S.	5·0	23·0	26·0	4·0	13·0	0·0	0·0	71·0	38·35	
Ailsa Craig	.....	1·60	.....	.....	S.	S.	52.2	37·5	3·5	17·5	....	1·1	.....	....	
Dundas	6·76	.....	7·65	7·93	S.	2·0	.....	.....	.....	14·0	0·0	0·0	.....	.....	
Hamilton	7·07	1·51	8·29	10·46	S.	17·8	22·5	31·8	5·4	14·2	1·9	0·0	93·6	36·69	
	7·32	1·87	7·26	8·95	S.	7·0	35·5	29·9	6·1	17·0	1·7	0·1	97·3	35·13	
N. and N. W. District.															
Little Current	6·69	1·78	6·12	6·80	S.	7·5	28·8	23·0	16·5	16·0	6·0	0·0	97·8	31·17	
Point Clark	18·29	2·47	9·82	10·55	0·0	12·6	45·0	29·7	10·8	22·5	2·0	0·0	122·6	43·39	
Seaforth	.....	1·62	5·64	8·12	0·0	36·0	69·0	33·0	12·0	31·0	0·0	0·0	181·0	.....	
Parkhill	10·54	0·04	4·05	.....	S.	11·0	47·0	22·0	7·0	16·0	0·0	0·0	103·0	.....	
Lucan	6·33	1·08	5·98	.....	0·0	29·8	49·6	17·7	2·3	8·0	1·7	0·0	109·1	.....	
Stratford	10·20	2·67	8·55	8·38	S.	17·5	36·7	19·0	10·1	18·5	0·8	0·0	102·6	40·06	
Kincardine	10·21	2·65	8·53	8·51	0·2	16·0	41·0	46·5	12·1	22·0	3·0	0·0	140·8	48·98	
Goderich	9·11	2·03	4·65	3·95	0·5	5·0	32·5	18·5	9·0	22·1	2·0	0·0	89·1	28·65	
Orillia	.....	R.	2·51	5·57	S.	...	26·5	23 7	42·3	12·3	S.	0·0	.....	.....	
Collingwood	8·22	.....	.....	.....	S.	12·0	42·5	34·0	.....	.....	.....	.....	.....	.....	
Gravenhurst	8·23	1·99	6·55	8·41	1·1	11·2	49·8	27·2	15·8	35·0	2·4	0·0	142·5	39·46	
Barrie	7·88	0·84	1·51	7·16	S.	8·5	24·5	10·2	12·5	29·8	....	0·0	.....	.....	
N. Gwillimbury	8·19	2·05	5·29	5·20	S.	S.	43·0	27·0	12·5	41·0	0·0	0·0	123·5	33·08	
Georgina	7·47	1·67	5·52	5·58	S.	0·2	30·5	19·8	10·5	42·3	1·0	0·0	104·3	30·67	
	8·41	1·50	6·14	7·14	0·1	12·9	40·5	25·1	13·3	24·3	1·5	0·0	117·7	34·84	
Central District.															
Newmarket	..	.....	.....	7·09	....	...	.....	.....	.....	.....	.....	.....	.....	.....	
Brampton	5·90	1·85	6·63	5·97	S.	1·0	21·5	20·5	8·0	23·0	2·5	0·0	76·5	28·00	
Toronto	6·24	1·50	7·94	4·50	S.	1·3	38·0	39·2	10·4	25·2	S.	0·0	114·1	31·59	
Markham	6·53	.....	.....	.....	S.	0·5	26·0	.....	.....	.....	.....	.....	.....	.....	
Welland	.....	1·86	8·41	7·22	S.	0·8	39·8	2·0	2·5	13·3	0·0	0·0	58·4	.....	
	6·54	1·72	7·39	6·20	S.	0·9	31·3	20·6	7·3	20·5	0·8	0·0	81·4	29·99	

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TABLE XXIV.—Quarterly Rainfall at the several Stations, with the Fall of Snow in each Month, and the Total Precipitation of Rain and Melted Snow, from September, 1872, to August, 1873, inclusive.—*Continued.*

	Quarterly Depth of Rain in Inches.				Depth of Snow in Inches.										Total Precipitation.
					1872.			1873.							
	Sept. to Nov., 1872.	Dec., 1872, to Feb., 1873.	March to May, 1873.	June to August, 1873.	October.	November.	December.	January.	February.	March.	April.	May.	Total.		
ONTARIO.—*Continued.*															
N. E. & E. District.															
Oshawa	6·79	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Cornwall	9·28	0·44	4·86	8·21	0 4	10·5	26·8	21·0	7·0	....	0·6	0·0	....	....	....
Peterborough	7·09	0·67	4·07	5·32	S.	2·3	27·6	20·6	7·9	39·4	2·0	0·0	99·8	27·00	
Belleville	7·69	2·03	4·85	6·01	0·0	17·7	48·0	32·2	18·7	46·2	2·0	0·0	162·8	36·86	
Brockville	8·71	1·66	6·07	10·11	0·0	10·5	32·5	32·0	13·0	34·0	1·0	0·0	123·0	38·85	
Fitzroy Harbor	7·40	1·24	4·53	7·27	S.	6 0	19·5	19·5	10·8	25·0	0·0	0·0	80·8	28·52	
Pembroke	7·48	....	....	....	0·0	6·8	19·2	....	22·0	....	....	0·0	....	....	
Ottawa	7·94	0·85	5·28	5·80	0·0	8·4	23·7	19·4	19·1	21·3	0·3	0·0	92·2	29·09	
Mean of District	7·79	1·21	4·73	6·46	S.	8·9	28·2	24·1	14·1	33·2	1·0	0·0	109·5	31·44	
Mean of Ontario	7·52	1·58	6·48	7·16	S.	7·4	33·9	24·9	10·2	23·8	1·3	S.	101·5	32·79	
QUEBEC.															
Quebec	7·67	R.	7·01	10·59	0·0	26·0	60·5	71·0	27·5	47·5	5·0	S.	237·5	49·02	
Huntingdon	11·61	1·40	3·91	8·55	0·0	9·1	18·7	24·7	6·2	25·0	S.	0·0	83·7	33 94	
Montreal	15·49	1·16	6·23	5·34	S.	10·7	43·3	41·3	16·6	33·5	S.	S.	145·4	42·76	
Richmond	10·08	....	....	....	5·0	9·5	33·0	....	....	....	....	....	....	....	
Danville	10·19	2·10	1·56	6·81	1·0	4·7	33·7	41·1	20·0	21·5	2·5	S.	124·5	33·11	
Carleton	12·55	....	....	....	....	....	....	....	....	....	....	....	....	....	
Chicoutimi	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
Charlesbourg	....	....	....	8·63	....	....	....	....	....	....	....	....	....	....	
Lotibiniere	....	....	....	5·38	....	....	....	....	....	....	....	....	....	....	
Point aux Trembles	8·63	....	....	....	....	....	....	....	....	....	....	....	....	....	
Levis	7·81	0·08	6·26	12·70	0·0	11·5	38·1	62·2	13·8	1·2	0·0	0·0	126·8	39·53	
Cape Rozier	3·45	0 47	1·39	5·47	0·0	1.4	34·0	59·0	36·0	28·0	39·0	2·0	199·4	30·62	
Mean for Quebec	9·65	0·64	4·25	7·83	0·9	10·4	37·3	49·9	20·0	26·1	7·8	0·3	152·7	38·64	
NOVA SCOTIA.															
W. and S. W. District.															
Yarmouth	....	....	6·93	....	....	....	....	....	3·8	7·0	0·1	0·2	....	....	
Digby	13·16	....	....	....	0·1	1·5	39·0	19·0	28·5	13·0	3·0	9·0	113·0	....	
Mean of District	13·16	....	6·93	....	0·1	1·5	39·0	19·0	16·2	10·0	1·6	4·6	92·0	....	
Central District.															
Halifax	12·00	8·14	5·97	11·31	S.	4·4	32·3	26·6	10·7	15·5	6·5	7·4	103·4	48·48	
Windsor	....	....	....	....	0·0	....	....	11·0	....	....	....	....	....	....	
Truro	16·03	4·59	4·89	9·42	0·0	6·0	46·0	15·6	28·3	28·6	8·2	0·6	133·3	50·91	
Pictou	11·66	4·00	2·82	13·22	0·0	11·0	44·3	16·5	35·8	34·2	10·7	0·0	152·5	46·93	
Seaforth	10·56	6·32	6·69	10·29	0·0	1·8	32·2	8·8	8·2	10·0	S.	S.	61·0	39·96	
Beaver Bank	13·78	....	4·85	10·68	0·0	1·0	37·0	4·0	2·0	5 5	4·0	12·0	65·5	....	
Wolfville	11·99	4·71	4·66	....	0·0	1·4	36·8	14·6	19·3	18·7	S.	0·5	91·3	....	
Mean of District	12·73	5·56	4·98	10·90	S.	4·3	38·1	13·9	17·4	18·8	4·9	3·4	100·8	44·25	

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TABLE XXIV.—Quarterly Rainfall at the several Stations, with the Fall of Snow in each Month, and the Total Precipitation of Rain and Melted Snow, from September, 1873, to August, 1873, inclusive.—*Concluded.*

	Quarterly Depth of Rain in Inches.				Depth of Snow in Inches.										
					1872.			1873.							
	Sept. to Nov., 1872.	Dec., 1872, to Feb., 1873	March to May, 1873.	June to Aug., 1873.	October.	November.	December.	January.	February.	March.	April.	May.	Total.	Total Precipitation.
NOVA SCOTIA.—*Continued.*															
N. E. and E. District.															
Guysborough	17·21	7·92	10·05	15·64	S.	11·7	52·8	16·0	23·0	38·7	S.	S.	142·2	65·04
Sydney	16·96	8·06	7·61	.....	S.	6·3	46·0	27·0	19·0	26·3	17·5	0·5	142·6	.....
Glace Bay	18·13	....	7·53	16 27	2·2	5·0	47·5	....	22·3	17 2	16·8	0·0	.....	.....
Cow Bay	.....	.....	6·67	.....	.....	....	....	....	....	3·8	13·9	0·0	.....	.....
Mean of District	17·43	8·10	7·97	15·00	0·7	7·7	48·8	21·5	21·4	21·5	12·1	0·1	133·8	61·88
Mean for N. Scotia	14·44	6·47	6·62	11·65	0·3	4·5	42·0	18·1	18·3	16·8	6·2	2·7	108·9	50·07
NEW BRUNSWICK.															
St. John	18·25	6·54	5·20	11·61	0·0	9·6	37·4	13·6	14·2	23·6	4·9	0·0	103·3	51·83
Bass River	14·41	1·33	2·87	.....	0·0	10·0	51·1	27·8	31·7	49·2	13·5	0·0	183·3	.....
Fredericton	17·18	1·84	4·66	10·45	0·0	4 2	38·7	21·9	33·5	9·3	S.	0·0	107·6	44·89
Bathurst	11·42	0·09	3·45	7·38	0·0	3·0	36·0	46·0	30·3	19·8	8·0	0·0	144·1	36·75
Dorchester	16·84	5·95	6·25	11·69	S.	2·0	48·0	13·5	24·0	31·0	4·0	0·0	122·5	52·98
Dalhousie	.....	.....	.....	4·08	. .	....	....	....	....	....	....	....	.....	.....
Mean for N. Brunswick	15·37	3·13	4·49	9·69	S.	6·0	42·2	24·6	26·7	26·6	6·1	0·0	132·2	45·90
PRINCE EDWARDS ISLAND.															
Charlottetown	10·27	3·26	4·39	11·03	S.	6·6	50·3	18·3	20·6	19·5	9·0	0·0	124·3	41·38
MANITOBA.															
Winnipeg	8·80	0·0	3·25	8·09	S.	9·9	2·7	3·2	11 7	2·1	0·5	0·0	30·1	23·15
St. John's College	7·00	0·0	1·80	12·32	7·5	9·0	4·2	9·2	21·2	5·9	0·3	0·0	57·3	26·85
NEWFOUNDLAND.															
St. John's	16·80	11·39	7·45	7·42	0·0	S.	S.	27·8	56·0	16·3	12·5	4·0	116·6	54·72
Harbor Grace	13·87	4·08	4·05	7·10	S.	*·79	4·11	4·86	2·77	2·33	112·	0·44	16·42	45·52
BRITISH COLUMBIA.															
Spence's Bridge	.. ..	.....	. ...	1·06	S.	S.	18·0	9·0	S.	3·0	0·0	0·0	30·0	.....

* At Harbor Grace, instead of the depth of Snow, the depth of its equivalent in Water is given.

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TABLE XXV.—Number of Days of Rainfall in each Month and in the Year, at the Stations in Table XXIII.

	1872.				1873.								
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
ONTARIO.													
W. and S. W. District.													
Windsor	12	5	3	0	4	1	4	13	8	9	8	2	69
Glencoe	5	5	1	1	4	0	2	9	4	4	.....	.....	.....
London	.....	10	6	3	.....	.....	.....	11	10	11	13	8	.....
Granton	.....	.....	.....	.....	4	2	6	10	12	9	10	11	.....
Woodstock	19	13	7	1	5	2	8	15	14	10	14	10	118
Plattsville	13	8	2	0	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ingersoll	12	7	4	0	3	1	5	10	11	9	10	5	77
Simcoe	12	11	5	1	5	1	12	10	10	7	11	8	93
Ailsa Craig	11	.....	.....	0	3	2	8	11	9	8	.....	.....	.....
Dundas	12	8	3	.....	.....	.....	4	7	6	6	6	12	.....
Hamilton	14	11	11	2	4	1	7	11	9	6	7	7	90
Mean of District	12·2	8·7	4·7	0·9	4·0	1·3	6·2	10·7	9·3	7·9	9·9	7·9	83·7
N. and N. W. District.													
Little Current	15	5	3	0	4	0	2	6	8	7	8	6	64
Point Clark	17	11	5	0	4	0	7	13	13	9	8	8	95
Seaforth	.....	.....	.....	0	6	0	2	9	10	9	4	8	.....
Parkhill	20	10	0	0	1	0	2	6	.....	.....	.....	.....	.....
Lucan	8	9	3	0	2	2	5	7	9	7	.....	.....	.....
Stratford	16	9	4	0	5	2	7	11	10	7	10	8	89
Kincardine	14	6	8	1	4	1	7	9	12	8	9	8	87
Goderich	23	11	8	1	4	1	6	12	14	7	10	13	110
Orillia	14	12	.....	0	2	4	2	6	9	7	8	11	.....
Collingwood	12	10	5	1	3	.....	.....	.....	.....	.....	.....	.....	.....
Gravenhurst	14	13	6	0	4	1	5	9	11	8	11	9	91
Barrie	18	13	5	0	4	1	3	8	9	8	8	9	86
N. Gwillimbury	10	8	6	0	4	2	1	8	8	4	6	5	62
Georgina	19	14	8	1	4	2	4	11	8	6	13	9	99
Mean of District	15·4	10·1	5·1	0·3	3·4	1·2	4·1	8·8	10·1	7·3	8·6	8·5	82·9
Central District.													
Newmarket	21	11	.....	1	.....	.....	.....	.....	5	7	9	7	.....
Brampton	16	9	5	0	4	2	6	10	8	9	10	11	90
Toronto	16	14	7	3	4	0	5	13	13	10	11	12	108
Markham	16	10	4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Welland	.....	.....	6	3	3	1	6	11	8	6	8	8	.....
Mean of District	17·3	11·0	5·5	1·6	3·7	1·0	5·7	11·3	8·5	8·0	9·5	9·5	92·2
N. E. and E. District.													
Oshawa	4	5	1	2	3	.....	.....	.....	6	6	.....	4	.....
Cornwall	15	11	6	1	4	2	3	12	12	10	11	9	96
Peterborough	17	14	9	2	3	2	3	10	11	8	11	10	100
Belleville	13	14	5	2	6	1	5	8	5	6	8	9	82
Brockville	8	13	5	2	6	0	6	12	5	8	12	13	90
Fitzroy Harbor	13	12	7	0	2	1	3	8	9	10	14	11	90
Pembroke	12	10	3	0	1	0	5	5	.....	.....	.....	.....	.....
Ottawa	13	16	8	0	2	0	6	7′	6	7	9	7	81
Mean of District	11·9	11·9	5·5	1·1	3·4	.0·9	4·4	8·9	7·7	7·9	10·8	9·0	83·4
Mean for Ontario	14·2	10·4	5·2	1·0	3·6	1 1	5·1	9·9	8·9	7·8	9·7	8·7	85·6

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TABLE XXV.—Number of Days of Rainfall in each Month and in the Year, at the Stations in Table XXIII.—*Continued.*

	1872.				1872.								
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
QUEBEC.													
Quebec	15	11	2	0	2	0	1	13	13	10	13	11	91
Huntingdon	18	15	4	3	3	0	3	12	9	12	12	12	103
Montreal	17	17	7	2	5	2	5	13	17	11	14	11	121
Richmond	12	10	4	0	.....	.....	.....	.....	.....	.....	.....	.....	.....
Danville	17	13	6	0	3	2	3	3	11	10	20	8	96
Carleton	8	11	2	.....	.....	.....	.....	.....	6	6	.....	9	.....
Chicoutimi	11	.....	.....	.....	.....	.....	.....	.....	7	9	.....	13	.....
Charlesbourg	8	7	.....	.....	.....	.....	.....	.....	4	7	8	5	.....
River du Loup	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lotbiniere	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	15	11	.....
Point-aux-Trembles	5	7	3	7	.....	.....	.....	.....	6	4	.....	4	.....
Levis	11	6	3	0	3	1	1	5	10	11	6	8	65
Cape Rozier	4	11	5	0	2	0	0	5	12	7	11	9	66
Mean of Quebec	11·5	10·8	4·0	1·5	3·0	0·8	2·2	8·4	9·5	8·2	12·4	9·2	81·5
NOVA SCOTIA.													
W. and S. W. District.													
Yarmouth	.....	.....	.....	.....	.....	3	5	8	6	7	7	.....	.....
Digby	14	13	12	7	8	2	6	12	10	12	15	11	122
Mean of District	14·0	13·0	12·0	7·0	8·0	2·5	5·5	10·0	8·0	9·5	11·5	11·0	112·0
Central District.													
Halifax	11	15	16	4	11	3	9	19	16	21	17	16	158
Windsor	7	.....	4	1	4	0	6	9	5	11	.....	.....	.....
Truro	8	19	11	5	10	3	7	16	10	18	15	11	133
Pictou	13	15	13	4	5	1	3	8	6	8	13	9	98
Seaforth	9	14	16	10	13	5	10	15	11	16	17	14	150
Beaver Bank	9	10	12	5	8	3	4	7	4	11	10	7	90
Wolfville	12	11	13	6	10	2	5	9	4	9	.....	.....	.....
Mean of District	9·9	14·0	12·1	5·0	8·7	2·4	6·3	11·9	8·0	13·4	14·4	11·4	117·5
E. and N. E District.													
Guysborough	12	15	13	5	9	3	7	15	5	11	11	11	117
Sydney	10	13	15	7	11	3	9	7	8	12	.....	10	.....
Glace Bay	12	15	12	6	.....	2	9	8	6	12	11	5	.....
Cow Bay	.....	.....	.....	.....	.....	.....	5	5	5	13	13	.....	.....
Mean of District	11·3	14·3	13·3	6·0	10·0	2·7	7·5	8·7	6·0	12·0	4·7	8·7	112·2
Mean for Nova Scotia	11·7	13·8	12·5	6·0	8·9	2·5	6·4	10·2	7·3	11·6	15·9	10·4	113·9

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TABLE XXV.—Number of Days of Rainfall in each Month and in the Year, at the Stations in Table XXIII.—*Concluded.*

	1872.				1873.								
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Total.
NEW BRUNSWICK.													
St. John	13	13	11	6	15	1	5	13	14	17	18	8	134
Bass River	12	14	10	0	4	2	5	6	13	13	13	.....	.....
Fredericton	13	14	9	0	8	0	4	10	10	11	16	7	102
Bathurst	5	8	6	0	1	0	2	3	8	9	8	11	61
Dorchester	13	14	10	3	9	1	5	11	10	11	12	10	109
Dalhousie	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	13	9	.....
Mean for New Brunswick.	11·2	12·6	9·2	1·8	7·4	0·8	4·2	8·6	11·0	10·8	13·3	9·0	99·9
PRINCE EDWARD'S ISLAND.													
Charlottetown	16	18	8	6	10	2	8	10	10	12	20	10	130
MANITOBA.													
Winnipeg	11	6	0	0	0	0	0	5	17	10	9	10	68
St. John's College	13	7	1	0	0	0	0	2	9	10	13	13	68
NEWFOUNDLAND.													
St. John's	11	15	10	8	10	6	5	5	9	12	13	10	114
Harbor Grace	16	17	12	9	3	4	4	7	9	14	15	12	122
Fogo	.....	7	7	.....	.....	3	4	2	4	6	9	6	.....
BRITISH COLUMBIA.													
Spence's Bridge	5	5	7	1	1	0	6	2	9	6	2	1	45

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TABLE XXVI.—Quarterly Number of Days of Rainfall, with the Number of Days of Snow, during the period September, 1872, to August, 1873, inclusive.

—	Quarterly No. of Days Rain.				No. of Days Snow.								
					1872.			1873.					
	Autumn.	Winter.	Spring.	Summer.	October.	November.	December.	January.	February.	March.	April.	May.	Total.
ONTARIO.													
W. and S.W. District.													
Windsor	20	5	25	19	0	6	6	10	4	9	8	0	43
Glencoe	11	5	15	.....	0	4	6	6	1	3	2	0	22
London	.....	.....	.....	32	1	10	12	.....	.....	.....	6	0	.....
Granton	.....	.....	28	30	.....	.....	.....	16	12	14	7	0	.....
Woodstock	39	8	37	34	0	10	20	19	10	16	5	0	80
Plattsville	23	.....	.....	.....	0	6	16	.....	.....	.....	.....	.....	.....
Ingersoll	23	4	26	24	1	3	12	10	5	10	2	0	43
Simcoe	28	7	32	26	1	5	5	7	3	2	1	0	24
Ailsa Craig	.....	5	28	.....	.....	.....	24	14	12	.....	0	0	.....
Dundas	23	.....	17	24	1	5	.....	.....	.....	7	0	0	.....
Hamilton	36	7	27	20	2	11	25	20	14	12	2	0	86
Mean of District	25·6	6·2	26·2	25·7	0·7	8·4	14·0	12·8	7·6	9·1	2·3	0·0	54·9
N. and N.W. District.													
Little Current	23	4	16	21	1	3	13	9	5	8	2	0	41
Point Clark	33	4	33	25	0	9	23	25	10	17	4	0	88
Seaforth	.....	6	21	21	0	12	17	17	6	13	0	0	65
Parkhill	30	1	.....	.....	2	6	16	10	2	5	0	0	41
Lucan	20	4	21	.....	0	6	17	8	3	2	2	0	48
Stratford	29	7	28	25	3	12	19	11	8	11	5	0	69
Kincardine	28	6	28	25	1	9	19	15	10	8	4	0	66
Goderich	42	6	32	30	1	6	17	18	9	15	6	0	72
Orillia	.....	6	17	26	2	.....	20	16	21	11	8	0	.....
Collingwood	27	.....	.....	.....	1	7	18	6	.....	.....	.....	.....	.....
Gravenhurst	33	5	25	28	1	11	21	16	12	14	6	0	81
Barrie	36	5	20	25	1	9	20	13	13	15	5	0	76
North Gwillimbury	24	6	17	15	1	6	18	11	5	11	0	0	52
Georgina	41	7	23	28	1	10	20	17	10	15	3	0	76
Mean of District	30·6	4·9	23·0	24·4	1·0	7·6	17·2	12·8	8·1	10·4	3·2	0·0	60·3
Central District.													
Newmarket	.....	.....	.....	23	.....	.....	12	.....	.....	.....	3	1	.....
Brampton	30	6	24	30	1	7	20	14	9	11	3	0	65
Toronto	37	7	31	33	1	9	24	17	11	15	3	0	80
Markham	30	.....	.....	.....	1	5	13	.....	.....	.....	.....	.....	.....
Welland	.....	7	25	22	..	6	14	8	7	7	0	0	42
Mean of District	33·8	6·3	25·5	27·0	1·0	6·7	16·6	13·0	9·0	11·0	2·2	0·2	59·5

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TABLE XXVI.—Quarterly Number of Days of Rainfall, with the Number of Days of Snow, during the period September, 1872, to August, 1873, inclusive. —*Continued.*

	Quarterly No. of Day's Rain.				No. of Days Snow.								
					1872.			1873.					
	Autumn.	Winter.	Spring.	Summer.	October.	November.	December.	January.	February.	March.	April.	May.	Total.
ONTARIO.—*Continued.*													
N. and N. E. District.													
Oshawa	10	...	...	...	...	...	...	...	...	...	...	...	...
Cornwall	32	7	27	30	1	8	18	20	11	14	3	0	75
Peterborough	40	7	24	29	1	9	23	16	11	13	15	0	88
Belleville	32	9	18	23	0	8	13	14	5	12	1	0	53
Brockville	26	8	23	33	0	10	20	18	7	12	2	0	69
Fitzroy Harbor	32	3	20	35	1	6	12	12	8	14	0	0	53
Pembroke	25	1	...	...	0	7	10	12	6	5	2	0	42
Ottawa	37	2	19	23	0	11	19	19	7	14	2	0	72
Mean for District	29·3	5·4	21·0	27·7	0·4	8·4	16·4	15·9	7·9	12·0	3·6	0·9	64·6
Mean for Ontario	29·8	5·7	23·9	26 2	0·8	7·8	16·1	13·6	8·2	10·6	2·8	0·1	69·0
QUEBEC.													
Quebec	28	2	27	34	0	7	13	16	12	15	9	1	73
Huntingdon	37	6	24	36	0	10	16	17	9	13	3	2	70
Montreal	41	9	35	36	2	10	19	20	10	15	1	3	80
Richmond	26	...	...	...	1	8	15	...	...	...	...	...	...
Danville	36	5	17	38	2	8	16	13	9	12	6	2	68
Carleton	21	...	...	...	...	...	...	...	...	...	...	...	...
Chicoutimi	...	...	...	...	...	...	...	...	...	...	...	0	...
Charlesbourg	...	...	...	20	...	...	...	...	...	...	...	...	...
Lotbinière	...	...	...	29	...	...	...	...	...	...	...	...	...
Point aux Trembles	15	...	...	...	...	...	...	...	...	...	...	...	...
Levis	20	4	16	25	0	7	13	11	8	6	1	0	46
Cape Rozier	20	2	17	27	0	2	10	5	4	6	5	2	34
Mean for Quebec	26·3	5·3	20·1	29·8	0·7	7·4	14·6	15·7	8·7	11·2	4·2	1·4	61·9
NOVA SCOTIA.													
W. and S. W. District.													
Yarmouth	...	...	19	...	...	...	...	...	5	3	3	1	...
Digby	39	17	28	38	0	5	16	8	13	11	4	1	58
Mean of District	39·0	17·5	23·5	32·0	0·0	5·0	16·0	8·0	9·0	7·0	3·5	1·0	49·5
Central District.													
Halifax	42	18	44	54	1	9	21	12	14	19	5	3	84
Windsor	...	5	20	...	...	5	6	9	7	6	4	2	...
Truro	38	18	23	44	0	3	20	12	15	16	10	2	78
Pictou	41	10	17	30	0	7	12	10	10	7	6	0	52
Seaforth	39	28	36	47	0	6	11	5	12	10	2	2	48
Beaver Bank	31	16	15	28	0	5	7	2	4	5	3	1	26
Wolfville	36	18	18	...	0	7	19	10	15	8	2	2	63
Mean of District	35·0	16·1	26·2	39·2	0·2	6·0	13·7	8·6	11·0	10·1	4·6	1·7	55·9

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TABLE XXVI.—Quarterly Number of Days of Rainfall, with the Number of Days of Snow, during the period September, 1872, to August, 1873, inclusive. —*Concluded.*

	Quarterly No. of Day's Rain.				No. of Day's Snow.								
					1872.			1873.					
	Autumn.	Winter.	Spring.	Summer.	October.	November.	December.	January.	February.	March.	April.	May.	Total.
NOVA SCOTIA,—*Continued.*													
E. and N.E. District.													
Guysborough	40	17	27	33	1	6	15	7	13	15	6	3	66
Sydney	38	21	24	.....	1	6	19	12	9	11	8	1	67
Glace Bay	39	.....	23	28	2	6	16	.....	9	9	9	0	.....
Cow Bay	.....	.....	15	.....	.....	.....	.....	.....	.....	5	5	0	.....
Mean of District	38·9	18·7	22·2	32·4	1·3	6·0	16·7	9·5	10·3	10·0	7·6	1·3	61·1
Mean for Nova Scotia.	38·0	17·4	23·9	37·9	0·5	5·7	15·5	8·7	10·1	9·0	5·0	1·3	55·8
NEW BRUNSWICK.													
St. John	37	22	32	43	0	11	18	12	11	17	4	0	73
Bass River	36	6	24	.....	0	8	18	13	12	16	10	0	77
Fredericton	36	8	24	34	0	6	14	12	11	8	4	0	55
Bathurst	19	1	13	28	0	3	4	9	7	6	5	0	34
Dorchester	37	13	26	33	1	1	11	4	9	5	1	0	32
Dalhousie	.....	.....	.....	26	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mean for N. Brunswick	33·0	10·0	23·8	33·2	0·2	5·8	13·0	10·0	10·0	10·4	4·8	0·0	54·2
PRINCE EDWARD'S ISLAND.													
Charlottetown	42	18	28	42	1	9	20	15	15	17	7	0	84
MANITOBA.													
Winnipeg	17	0	22	29	4	10	9	10	9	6	3	0	51
St. John's College	21	0	11	36	6	16	13	16	12	6	2	0	71
NEWFOUNDLAND.													
St. John's	36	24	19	35	0	11	16	17	17	10	8	4	83
Harbor Grace	45	16	20	41	1	11	20	19	16	14	8	6	95
Fogo	.....	.....	10	21	1	7	.....	.....	3	6	7	2	....
BRITISH COLUMBIA.													
Spence's Bridge	17	2	17	9	3	2	10	6	2	4	0	0	27

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TABLE XXVII.—Quarterly average depth of Rain in the several Provinces, and the average depth of Snow in each month and in the year, and the average number of days in the same period.

	Quarterly depth of Rain in inches.				Depth of Snow in inches.								Total.
					1872.			1873.					
	Autumn.	Winter.	Spring.	Summer.	October.	November.	December.	January.	February.	March.	April.	May.	
ONTARIO.													
W. and S. W. District	7·32	1·87	7·26	8·95	S.	7·0	35·5	29·9	6·1	17·0	1·7	0·1	97·3
N. and N. W. District	8·41	1·50	6·14	7·14	0·1	12·9	40·5	25·1	13·3	24·3	1·5	0·0	117·7
Central District	6·54	1·72	7·39	6 20	S.	0·9	31·3	20·6	7·3	20·5	0·8	0·0	81·4
N. and N. E. District	7·79	1·21	4·73	6·46	S.	8·9	28·2	24·1	14·1	33·2	1·0	0·0	109·5
Ontario	7·52	1·58	6·48	7·16	S.	7·4	33·9	24·9	10·2	23·8	1·3	S.	101·5
QUEBEC	9·65	0·64	4·25	7·83	0·9	10·4	37·3	49·9	20·0	26·1	7·8	0·3	152·7
NEW BRUNSWICK	15·37	3·13	4·49	9·69	S.	6·0	42·2	24·6	26·7	26·6	6·1	0·0	132·2
NOVA SCOTIA.													
W. and S. W. District	13·16	....	6·93	.....	0·1	1·5	39·0	19·0	16·2	10·0	1·6	4·6	92·0
Central District	12·73	5·56	4·98	10·90	S.	4·3	38·1	13·9	17·4	18·8	4·9	3·4	100·8
E. and N. E. District	17·43	8·10	7·97	15·00	0·7	7·7	48·8	21·5	21·4	21·5	12·1	0·1	133·8
Nova Scotia	14·44	6·47	6·62	11·65	0·3	4·5	42·0	18 1	18·3	16·8	6·2	2·7	10·89

DAYS.

ONTARIO.													
W. and S. W. District	25·6	6·2	26·2	25 7	0·7	8·4	14·0	12·8	7·6	9·1	2·3	0·0	54·9
N. and N. W. District	30·6	4·9	23·0	24·4	1·0	7·6	17·2	12·8	8·1	10·4	3·2	0·0	60·3
Central District	33·8	6·3	25·5	27·0	1·0	6·7	16·6	13·0	9·0	11·0	2·2	0·2	59·5
N. and N. E. District	29·3	5·4	21·0	27·7	0·4	8·4	16·4	15·9	7·9	12·0	3·6	0·0	64·6
Ontario	29·8	5·7	23 9	26·2	0·8	7·8	16·1	13·6	8·2	10·6	2·8	0·1	60·0
QUEBEC	26·3	5·3	20·1	29·8	0·7	7·4	14·6	13·7	8·7	11·2	4·2	1·4	61·9
NEW BRUNSWICK	33·0	10·0	23·8	33·2	0·2	5·8	13·0	10·0	10 0	10·4	4·8	0·0	54·2
NOVA SCOTIA.													
W. and S. W. District	39·0	17·5	23·5	32·0	0·0	5·0	16 0	8·0	9·0	7·0	3·5	1·0	49·5
Central District	35·0	16·1	26·2	39·2	0·2	6·0	13·7	8·6	11·0	10·1	4·6	1·7	55·9
E. and N. E. District	38·9	18·7	22·2	32·4	1·3	6·0	16·7	9·5	10·3	10·0	7·0	1·3	61·1
Nova Scotia	38·0	17·4	23·9	37·9	0·5	5·7	15·5	8·7	10·1	9·0	5·0	1·3	55·8

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TABLE XXVIII.—Average Depth of Rain in inches, in the several Provinces of the Dominion of Canada, from September, 1872, to August, 1873; with the average number of Days of Rainfall in the same period.

—	1872.				1873.								Year.
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	
ONTARIO.													
W. and S. W. District.....	4·37	2·45	0·50	0·22	1·49	0·16	1·89	3·04	2·33	3·47	3·22	2·26	25·40
N. and N. W. District.....	4·63	2·87	0·91	R	1·43	0·07	1·04	2·58	2·52	2·32	2·77	2·05	23·19
Central District	2·97	3·07	0·50	0·25	1·22	0·25	1·98	3·55	1·86	1·74	2·39	2 07	21·85
N. E. and E. District.....	3·44	3·60	0·75	0·24	0·95	0·02	1·26	2·18	1·29	1·54	3·13	1·79	20·19
Ontario.....	3·85	3·00	0·67	0·18	1·27	0·13	1·54	2·84	2·00	2·27	2·88	2·04	22·67
QUEBEC	3·84	3·59	2·22	0·64	0·90	0·10	0.38	1·64	2·23	2·11	3·21	2·51	23·37
NEW BRUNSWICK.....	3·17	7·04	5·16	0·39	2·42	0·32	1·06	1·68	1·75	3·48	3·55	2·66	32·68
NOVA SCOTIA.													
W. and S. W. District.....	3·11	4·32	5·73	R	.....	1·58	1·65	3·45	1·83	3·30	1·41	.....	.....
Central District	1·85	5·46	5·42	1 43	3·59	0·54	1·38	1·93	1·67	2·49	4·41	4·00	34·17
E. and N. E. District	5·16	5·94	6·33	2·12	4 82	1·16	2·56	3·92	1·49	2·82	7·53	4·65	48·50
Nova Scotia.....	3·37	5·24	5·83	1·18	4·20	1·09	1·86	3·10	1·66	2·87	4·45	4·33	39·18

DAYS.

ONTARIO.													
W. and S. W. District.....	12·2	8·7	4·7	0·9	4·0	1·3	6·2	10·7	9·3	7·9	9·9	7·9	83·7
N. and N. W. District.....	15·4	10·1	5·1	0·3	3·4	1·2	4·1	8·8	10·1	7·3	8·6	8·5	82·9
Central District.....	17·3	11·0	5·5	1·6	3·7	1·0	5·7	11·3	8·5	8·0	9·5	9·5	92·2
N. E. and E. District.....	11·9	11·9	5·5	1·1	3·4	0·9	4·4	8·9	7·7	7·9	10·8	9·0	83·4
Ontario	14·2	10·4	5·2	1·0	3·6	1·1	5·1	9·9	8·9	7·8	9·7	8·7	85·6
QUEBEC	11·5	10·8	4·0	1·5	3·0	0·8	2·2	8·4	9·5	8·2	12·4	9·2	81·5
NEW BRUNSWICK	11·2	12·6	9·2	1·8	7·4	0·8	4·2	8·6	11·0	10·8	13·4	9·0	100·0
NOVA SCOTIA.													
W. and S. W. District... .	14·0	13·0	12·0	7·0	8·0	2·5	5·5	10·0	8·0	9·5	11·5	11·0	112·0
Central District	9·9	14·0	12·1	5·0	8.7	2·4	6·3	11·9	8·0	13·4	14·4	11·4	117·5
E. and N. E. District.....	11·3	14·3	13·3	6·0	10·0	2·7	7·5	8·7	6·0	12·0	11·7	8·7	112·2
Nova Scotia... ...	11·7	13·8	12·5	6·0	8·9	2·5	6·4	10·2	7·3	11·6	15·9	10·4	113·9

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TABLE XXIX.—Differences between the Mean Temperatures in Table V., and the Average Means derived from three or more years, as shown in Table I. The deviations being marked (+) or (−), according as the Means in Table V. are greater or less than the standards with which they are compared.

	1872.				1873.								
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.
	°	°	°	°	°	°	°	°	°	°	°	°	°
ONTARIO.													
Pembroke	+2·7	+0·3	+2·3	−1·9	−3·4	−0·8	+0·3	−1·3	....	....	....	....	....
Fitzroy Harbor	+1·9	−2·7	+3·4	−4·6	+1·5	+0·7	+2·1	−3·4	−0·1	−3·3	−0·7	−1·8	−1·4
Cornwall	+0·3	−3·1	+1·2	−5·0	−2·6	−1·5	−1·3	−1·9	+1·0	−0·3	+0·9	−1·9	−1·2
Gravenhurst	+2·6	−2·6	+2·6	−1·1	−0·5	−2·5	−0·5	−1·1	−1·4	+1·6	−1·4	−1·6	−0·3
Barrie	+1·2	−1·4	−1·9	−5·4	−4·3	−0·6	−0·1	−2·7	+0·4	+1·8	−1·7	+1·4	−1·1
Peterborough	+2·7	+0·2	+1·0	−4·0	−1·6	+1·6	+0·7	−2·6	+0·4	+1·8	−0·3	−0·6	0·0
Kincardine	−1·2	−4·0	−1·6	−2·7	−6·7	−3·7	−4·8	−5·6	−7·1	−5·6	−7·1	−5·1	−4·5
Bellevillo	+1·0	−1·6	−0·1	−4·6	−1·5	+0·6	0·0	−2·0	+0·6	+2·0	−0·5	−0·4	−0·6
N. Gwillimbury	+0·7	−2·5	+1·1	−3·4	−3·2	−0·6	+0·5	−3·5	−4·7	−1·4	−1·8	−1·1	−1·6
Goderich	+1·2	−1·8	−2·8	−4·6	−6·0	−3·4	−1·4	−3·2	+1·6	+3·1	+0·6	+3·3	−1·2
Toronto	+1·0	−0·3	−3·5	−6·9	−5·4	−1·5	−2·8	−2·5	+0·3	+2·0	+1·0	+0·4	−1·5
Stratford	+1·6	−1·4	−4·4	−7·6	−4·4	−2·1	−0·4	−3·7	+1·4	+2·8	+0·5	+1·3	−1·3
Dundas	−0·6	−1·3	−2·5	....	....	−3·5	−0·5	−4·9	−3·6	−1·4	−1·0	−2·3	.....
Hamilton	+1·8	−0·8	−2·5	−4·9	−4·4	−1·4	+0·1	−3·1	+0·1	−0·1	−0·1	+1·0	−1·2
Woodstock	+4·2	−1·9	−0·7	−5·5	−3·8	−2·3	−1·7	−2·6	−0·6	+1·1	−0·3	−1·7	−1·3
Glencoe	−2·8	−2·7	−1·9	−4·8	−3·9	−1·7	−1·9	−6·0	−3·8	+3·2	....	....	.....
Simcoe	+2·3	−0·3	−2·1	−4·7	−3·7	−0·5	−0·9	−2·1	+1·7	+3·2	+3·7	+5·3	+0·2
Windsor	+1·9	−0·2	−4·7	−6·2	−5·5	−2·0	−0·8	−4·3	+1·5	+3·6	−0·3	+1·1	−1·3
QUEBEC.													
Montreal	+1·3	−1·8	+0·6	−5·3	−1·8	−0·1	+1·8	−1·6	0·0	+0·8	−0·8	−0·4	−0·6
Quebec	−0·5	−1·6	−2·8	−6·9	−2·5	−3·3	−1·5	−1·8	−0·6	−2·7	0·0	−2·2	−2·3
Huntingdon	+2·4	−2·9	+0·2	−7·0	−1·1	−1·2	+0·5	−3·5	−0·9	−1·9	−0·3	−2·9	−1·6
NEW BRUNSWICK.													
St. John	+0·8	+0·4	−0·1	−6·3	+1·8	−2·4	+0·9	−0·7	−0·5	−1·5	0·0	−0·1	−0·5
Bass River	+2·8	−1·0	0·0	−4·8	−0·6	−3·9	+1·4	−2·3	−1·1	−3·6	+0·1	....	.....
NOVA SCOTIA.													
Halifax	+1·2	+0·6	−0·1	−3·6	+0·6	−3·1	+2·0	−0·1	+0·6	−4·3	−0·1	−0·4	−0·6
Glace Bay	+2·2	−0·1	+0·3	−1·9	....	−3·0	+3·4	−0·2	+2·5	−1·5	0·0	+0·3	....
Pictou	+1·5	+0·8	+1·6	−3·7	0·0	−3·5	+2·4	−0·9	+0·8	−3·1	+2·6	−0·7	−0·2
Sydney	+2·3	+1·2	+0·4	−1·6	−3·8	−6·2	+1·7	−2·1	+0·2	−4·7	−0·5	−1·4	−1·2

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SUMMARY of Expenditure of the Meteorological Office, during the Fiscal Year ended 30th June, 1873.

		$ cts.	$ cts.
SALARIES.			
CENTRAL OFFICE.			
C. Carpmael, M.A. (9 months)	Charge of weather telegraphy	700 00	
T. Menzies	Charge of constructing apparatus	124 00	
W. A. Stewart	Reducing Statistical Returns	189 00	
W. F. Davison	Accountant of Supplies, &c	145 00	
T. Hope	Telegraph operator	459 00	
F. Stupart (6 months)	Map drawing and other services	70 00	
C. E. Stewart	Occasional and Miscellaneous	108 00	
T. F. Fotheringham	do do	50 00	
F. Checkley	do do	80 00	
G. C. Haney	do do	5 00	
C. Sturgeon	Messenger	24 00	
			1,954 00
CHIEF STATIONS.			
Halifax.....F. Allison, M.A.	Superintendence and assistance	400 00	
St. John.....G. Murdoch, C.E.	do do	400 00	
Fredericton....Dr. Jack	do do	400 00	
Ottawa.....G. C. Haney	do do	400 00	
Winnipeg..... St. John's College	do do	500 00	
			2,100 00
TELEGRAPH STATIONS.			
Saugeen.....J. R. Stewart	do do	339 50	
Port Stanley...M. Payne	do do	366 50	
Port Dover ....H. Morgan	do do	329 50	
Kingston .... S. Woods, M.A.	do do	371 50	
Montreal ..... Dr. Smallwood	do do	500 00	
Quebec .....Captain Ashe, R.N.	do do	250 00	
Chatham, N.B. G. A. Blair (4½ months)	do do	112 50	
Halifax.....F. Allison (1½ months)	do do	40 50	
Winnipeg.....J. Stewart (2 months)		46 00	
			2,356 00
Instruments and apparatus		926 33	
Stationery and printing		160 24	
Telegraphing Weather reports		1,662 54	
Travelling expenses		127 53	
Carriage of apparatus		126 07	
Building and furniture		198 24	
Carpenters' work		36 16	
Painters' work		53 25	
Hardware		17 92	
Lumber		42 39	
Fuel		37 50	
Sundry expenses at Stations		53 75	
Postage		89 02	
Cost of remitting salaries and other payments		26 43	
Miscellaneous small payments		32 63	
			3,590 00
			$10,000 00

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APPENDIX No. 28.

REPORT ON FORT HOWE OBSERVATORY, ST. JOHN, NEW BRUNSWICK, FOR FISCAL YEAR ENDED 30TH JUNE, 1873.

St. John, 24th January, 1874.

Sir,—The Time-Ball on Fort Howe, up to 11th October, 1873, has been regularly dropped each day at one o'clock. It was afterwards taken down, and improved—making the cylinder longer in order to give it more hoist. It is now placed on the top of the Custom House Buildings, which is universally considered a more advantageous position. The Common Council, at their last meeting, passed an order to connect the Fire Alarm Bells with the Ball, by which means the correct time will be distributed all over the city. This is a boon which no doubt will be appreciated, as it will enable persons who cannot see the Ball to correct their time.

I remain, etc.,

(Signed) GEO. HUTCHINSON, Jr.,
Director of Time-Ball.

To William Smith, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

STATEMENT of Expenditure on account of Observatory, St. John, for the Fiscal Year ended 30th June, 1873.

	$ cts.	$ cts.
George Hutchinson, Jr., 12 months' salary as director	500 00	
G. McAuley, 12 months' salary as caretaker	104 00	
R. P. & W. H. Starr, coal	9 00	
J. Williams, oil, tallow, etc	6 72	
Militia Department, two years' rent of site	12 16	
P. Sheridan, petty expenses	4 73	
		636 61

WM. SMITH,
Deputy of Minister of Marine a n Fisher ies.

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APPENDIX No. 29.

STATEMENT of Trips made by the Steamships of the Quebec and Gulf Ports Steamship Company between Quebec and Pictou, calling at intermediate Ports, from the 7th May, 1873 to the 2nd August, 1873, under their agreement with the Government of the Dominion of Canada, with the time of Arrival and Departure at Quebec and Pictou.

Name of Steamer.	No. of Trip.	Date of Departure from Quebec.	Date of Arrival at Pictou.	Date of Departure from Pictou.	Date of Arrival at Quebec.
Steamship "Georgia."...	1	May 7, 9·45 a.m	May 14, 9·0 a.m	May 16, 10·0 a.m	May 22, 6·0 a.m
" "Secret".....	1	" 13, 2·30 p.m	" 16, 11·45 p.m	" 20, 7·0 "	" 24, noon
" "Georgia."...	2	" 23, 3·30 a.m	" 28, 2·0 "	" 27, s.s. "Pictou," 7 a.m....	June 3, 11·0 a.m
" "Secret".....	2	" 27, 2·10 p.m	" 31, 8·30 "	June 3, 7·0 a.m	" 7, 9·0 "
" "Georgia."...	3	June 3, 4·0 "	June 8, 5·30 a.m	" 10, 7·0 "	" 14, 3·30 p.m
" "Secret".....	3	" 10, 2·20 p.m	" 14, 9·30 p.m	" 17, 7·0 "	" 21, 8·0 a.m
" "Miramichi"	1	" 17, 3·15 "	" 22, 4·0 "	" 24, 7·0 "	" 28, 4·0 p.m
" "Secret".....	4	" 24, 2·30 "	" 28, 3·0 "	July 1, 7·0 "	July 5, 2·0 p.m
" "Miramichi"	2	July 1, 2·15 "	July 6, 4·15 "	" 8, 7·0 "	" 12, 11·0 a.m
" "Secret".....	5	" 8, 3·20 "	" 12, 7·0 "	" 15, 7·0 "	" 19, 11·30 "
" "Miramichi"	3	" 15, 2·20 "	" 20, 4·0 a.m	" 22, 7·10 "	" 26, 4·0 p.m
" "Secret".....	6	" 22, 2·30 "	" 26, 7·0 p.m	" 29, 7·0 "	Aug. 2, 5·30 "

REMARKS.

Steamship *Georgia*, Trip No. 1. outwards.—Gaspé Bay full of ice; Bay of Chaleur packed with ice; could not reach Dalhousie in consequence; detained by ice at Chatham 12 hours, and by fog at Newcastle, 15 hours.

Steamship *Secret*, Trip No. 1, outwards.—Unable to reach Paspebiac and Dalhousie on account of ice in the Bay of Chaleur, and in consequence was obliged to carry the Paspebiac and Dalhousie mails to Chatham, to be sent back by land.

Steamship *Georgia*, Trip No. 2, outwards.—Detained seven hours by fog. The *Georgia*, by detention in the ice first voyage, was unable to recover the lost time so as to leave Quebec and Pictou on Tuesdays; the steamship *Pictou* was sent with the mails and passengers one trip upward, the *Georgia* coming from Pictou direct: by this means the steamers were placed on their regular time.

Steamship *Miramichi*, Trip No. 1.—Detained by fog several hours on the down trip.

Steamship *Miramichi*, Trip No. 2.—Detained 12 hours by fog between Quebec and Father Point.

Steamship *Miramichi*, Trip No. 3.—Blowing a gale of wind at Dalhousie; unable to land passengers or cargo till after a detention of five hours.

Steamship *Secret*, Trip No. 6.—Detained 12 hours by fog on upward trip.

I, William Moore, Manager of the Quebec and Gulf Ports Steamship Co., make oath and say, that, to the best of my knowledge and belief, the foregoing statement and account attached are correct in every particular.

W. MOORE.

Sworn before me at Quebec, this 4th day of August, One thousand eight hundred and seventy-three.

J. PORTER,
Justice of the Peace.

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STATEMENT of Trips made by the Steamships of the Quebec and Gulf Ports Steamship Company between Quebec and Pictou, calling at intermediate Ports, from the 5th August, 1873, to the 24th November, 1873, under their agreement with the Government of the Dominion of Canada, with the time of Arrival and Departure from Quebec and Pictou.

Name of Steamer.	No. of Trip.	Date of Departure from Quebec.	Date of Arrival at Pictou.	Date of Departure from Pictou.	Date of Arrival at Quebec.
Steamship "Miramichi"	4	July 29, 2·20 p.m	Aug. 3, 8·20 a.m	Aug. 5, 7·0 a.m	Aug. 9, 6·15 a.m
" "Secret"	7	Aug 5, 2·0 "	" 9, 4·0 p.m	" 12, 7·0 "	" 16, 9·30 "
" "Miramichi"	5	" 12, 2·20 "	" 16, 11·45 "	" 19, 7·0 "	" 24, 5·30 "
" "Secret"	8	" 19, 2·15 "	" 24, 4·15 "	" 26, 8·0 p.m	" 31, 8·30 p.m
" "Georgia"	9	" 26, 2·30 "	" 31, 5·30 a.m	Sept. 2, 7·0 a.m	Sept. 6, 4·30 "
" "Secret"	9	Sept. 2, 2·25 "	Sept. 7, 10·0 "	" 9, 7·0 "	" 13, 6·0 a.m
" "Georgia"	10	" 9, 2·30 "	" 14, 6·0 "	" 16, 7·0 "	" 20, 6·0 p.m
" "Secret"	10	" 16, 2·20 "	" 21, 6·15 "	" 23, 7·0 "	" 27, 9·20 a.m
" "Georgia"	11	" 23, 2·0 "	" 29, 3·0 "	" 30, 5·0 "	Oct. 6, 7·0 p.m
" "Secret"	11	" 30, 2·30 "	Oct. 4, 7·30 p.m	Oct. 7, 7·15 "	" 11, 9·15 a.m
" "Georgia"	12	Oct. 8, 9·30 "	" 14, 8·0 "	" 15, 5·0 p.m	" 21, 2·0 "
" "Secret"	12	" 14, 2·20 "	" 20, 7·0 a.m	" 21, 7·20 a.m	" 25, 7·0 p.m
" "Miramichi"	6	" 22, 12·15 "	" 28, 7·0 p.m	" 30, 6·30 "	Nov. 4, 3·0 a.m
" "Secret"	13	" 28, 2·35 "	Nov. 3, 11·10 "	Nov. 4, 9·0 p.m	" 8, 11·45 p.m
" "Miramichi"	7	Nov. 5, 11·45 a.m	" 10, 6·0 "	" 13, 8·45 a.m	" 19, 3·30 "
" "Secret"	14	" 11, 2·35 p.m	" 17, 7·30 a.m	" 19, 2·0 p.m	" 24, 7·30 "

REMARKS.

Steamship *Secret*, Trip No. 8.—Detained 12 hours by fog between Quebec and Father Point on outward trip.

Steamship *Secret*, Trip No. 9.—Detained, by fog and easterly storm, eight hours at Dalhousie, on 4th and 5th September.

Steamship *Secret*, Trip No. 12.—Detained 12 hours, between Percé and Paspebiac, on downward trip by S.E. gale, and 12 hours in Miramichi River by fog.

Steamship *Secret*, Trip No. 13.—Detained, on downward trip, 24 hours between Dalhousie and Newcastle, by gale of easterly wind; detained eight hours by snowstorm between Gaspé and Father Point on upward trip.

Steamship *Secret*, Trip No. 14.—Detained, on downward trip, 18 hours by easterly gale and snowstorm between Father Point and Gaspé; detained in Pictou Harbor until Wednesday afternoon, 19th November, by terrific gale from N.E.

Steamship *Miramichi*, Trip No. 16.—Detained, on downward trip, 12 hours between Newcastle and Shediac, by gale from the south; on upward trip, at Paspebiac very strong W.N.W. wind: sea running too high for boat to come off.

Steamship *Miramichi*, Trip No. 17.—Detained 12 hours between Father Point and Quebec on upward trip, by violent gale and snowstorm.

I, William Moore, Manager of the Quebec and Gulf Ports Steamship Co., make oath and say that to the best of my knowledge and belief the foregoing statement and account attached are true in every particular.

W. MOORE.

Sworn before me at Quebec, this 29th day of November, One thousand eight hundred and seventy-three.

P. GARNEAU,
Justice of the Peace.

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QUEBEC, 17th February, 1874.

WM. SMITH, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honor to furnish herewith the following statement of the operations of the company's steamers during the past year.

1. The steamship *Secret* made 14 round trips between Quebec and Pictou, touching at Father Point, Gaspé, Percé, Paspebiac, Dalhousie, Chatham, Newcastle, and Shediac, going and returning each trip.

2. The steamship *Miramichi* made seven round trips between Quebec and Pictou, touching at Father Point, Gaspé, Percé, Paspebiac, Dalhousie, Chatham, Newcastle, and Shediac, going and returning.

3. The steamship *Georgia* made seven round trips between Montreal, Quebec, Father Point, Gaspé, Shediac, Charlottetown, and seven trips from Quebec and Pictou, calling at Father Point, Gaspé, Percé, Paspebiac, Dalhousie, Chatham and Newcastle, going and returning.

4. The steamship *Pictou* made nine trips between Montreal and Pictou, calling at Quebec, Father Point, Shediac and Charlottetown, and called returning, one trip at Chatham, Newcastle, Dalhousie, Paspebiac, Percé, Gaspé.

All the above steamers called at Metis, during the months of June, July, August, and September, in addition.

5. The steamship *Flamborough* made nine trips between Montreal and Pictou, touching at Quebec, Father Point, Chatham, Newcastle, Shediac, and Charlottetown, as business offered on the downward trips.

6. The steamship *Alhambra* made eight trips between Montreal and Pictou, touching at Quebec, Father Point, Shediac, and Charlottetown, as business offered on the downward trips.

7. The steamship *Hadji* made seven trips between Montreal, Quebec and Pictou, touching at Shediac and Charlottetown on the downward trips, as business offered.

The total number of round trips of the company's steamers during the past season were 68. Owing to the late opening and early closing of navigation last season, and detention of steamers at Pictou, in consequence of the burning of the Intercolonial Coal Mines, the freight steamers made together 15 trips less than usual, causing the company serious loss.

The following are the vessels owned by the company:—

S.S. *Secret*, steel built paddle steamer, 467 tons, 180 horse-power.
S.S. *Miramichi*, steel built paddle steamer, 727 „ 180 horse-power.
S.S. *Georgia*, iron screw steamer..... 648 „ 200 horse-power.
S.S. *Alhambra*, iron screw steamer.....1,063 „ 120 horse-power.
S.S. *Flamborough*, iron screw steamer.... 670 „ 90 horse-power.
S.S. *Hadji*, iron screw steamer .....1,033 „ 100 horse-power.
S.S. *Canimar*, iron screw steamer..... 742 „ 182 horse power.

I am Sir,
Your most obedient servant,
W. MOORE, *Manager*

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APPENDIX

STATEMENT of Wrecks and Casualties to Sea-going Vessels, from 1st January of Marine

Date of Casualty.	Name of Vessel.	Age.	Port of Registry.	Port sailed from and Port bound to.	Rig.
1873.					
Feb. 2..	Arizona	8	St. John, N.B	Newhaven to St. John, N.B. ..	Schooner ...
Jan. 15..	Acadian	New	Montreal	Baltimore to Halifax	Steamer ....
Feb. 5..	Annie Bayard	New	St. John, N.B	New York to Bilboa, Spain.....	Schooner ....
April 3..	Abbie Perkins	8	Parrsboro', N.S ...	New York to London	do ...
1..	Atlantic	2	Liverpool	Liverpool to New York.....	Steamer ....
June —..	Annetta...	8	St. John, N.B.	Antwerp to Sydney, C.B.	Barque .....
April 18..	Alethea	23	Victoria, B.C.	Chefoo to Shanghae	do ....
.....	Altavela.....	6	Parrsboro' N.S	Windsor, N.S. to New York ..	do ...
Nov.28,'72	Agenora	7	St. John, N.B.	Buctouche, N.B. to Liverpool ...	do ....
Aug.18,'73	Ann.....	28	Maryport..... ..	Quebec to Antwerp	Brig .. ....
.....	Amy Carter	5	Halifax, N.S.....	Halifax to Bay of Islands, N'f'dl'nd	Schooner ...
Aug. 30..	Afton	9	St. John, N.B.	St. John to Liverpool.....	Brigantine .
.....	Asteriana.	4	do ...	Rangoon to St. John, N.B.....	Ship .....
May 3..	Arnica	9	do	St. John to Vineyard Hrbr., U.S.	Schooner ..
Aug. 23..	Alice.....	1	do ...	Ten Mile Creek.....	do ...
21..	Alba.....	2	do	At anchor.....	do ...
21..	Arthur.....	7	Halifax, N.S	Boston to Halifax.....	Brigantine .
24..	Arctic.....	7	Parrsboro', N.S....	At anchor.....	do .
24 .	Assam Valley	19	St. John, N.B. ...	Pensacola to Liverpool...	Ship .....
24..	Adela	16	Spanish	Caledonia, N.S., to Boston.....	Barque .....
....	Agenora.....	....	Portland, U.S.	Pictou, N.S., to Portland, U.S.	Brig .....
Aug. 24..	Alpha	7	Arichat, N.S. ..	Halifax to Sydney, C.B.	Schooner ...
Nov. 29..	Annie Martha	3	St. John, N.B.	Sydney, C.B., to St. John, N.B.	do ...
Aug. 24..	Alice Starritt..... .	6	Boston, U.S..	New York to Cow Bay, C.B....	Brigantine .
24..	Abdenkeene	1	American	Bremen, U.S., to G. of S. Lawrence	Schooner ...
24..	Annie C. Norwood..	2	do	United States to do	do ...
24 .	Arizona.	14	do	do do	do ...
25..	Alpha.....	4	do	Boston to Gulf of St. Lawrence .	do ...
25..	Alexander McKenzie	4	Shelburne, N.S. ...	Shelburne, N.S. to do	do ...
Nov. 15..	Active	7	St. John's, N.F...	Fortune Bay, N'dland, to Halifax,	do ...
15..	Argentine	.....	Norway.....	Matane, G. of St. Lawrence [N.S.	Barque .....
13..	Amoor	18	Newcastle, G.B....	Quebec to Greenock	Ship.....
Oct. — ..	Annandale	24	do ..	St. John, N.B., to Hull, G.B...	Barque .....
Nov. —..	Arrow	4	P. E. Island	Barbadoes to Boston, U.S.....	Schooner ...
Mar. 15..	A. C. Watson.....	1	St. John, N.B.....	St. John to New York.....	do ...
Feb. 21...	B. L. George	.....	Halifax	Demerara to Boston	Brigantine..
.....	Brothers Pride.....	6	Annapolis, N.S ...	Lat. 35°, N. Long. 54°, W	Schooner ...
May 25...	Betty	18	Christiana	Christiana to Cape St. Ignace, Q	Barque ....
July 27..	Beta	5	East Machias, Me..	Boston to Port Caledonia, C.B..	Schooner ..
Aug. 13..	Border Chieftain....	6 mo.	North Shields	North Shields to Montreal.....	Steamer ....
24..	Brilliant Star..... .	14	Arichat, C.B.....	Cape Canso to Guysboro', N.S..	Schooner ..
29..	Blanch Thomas	1	Yarmouth, N.S....	Antwerp to Shelburn, N.S.....	Barque ....
Nov. 8..	Bessie	8	Sydney, C.B	Cow Bay to Boston, U.S	Brigantine..
25..	Breadalbane	7	St. John's, Newfo'd	Montreal to Antigonish, N.S	do ..
27..	Bona Fide.....	14	Yarmouth, N.S....	Saving cargo of Helen Patterson	Schooner ..
12..	Belvidere	17	La Have, N.S.....	Philadelphia to Trieste	Barque ....
July 5..	City of Washington.	18	Liverpool, G.B....	Liverpool to New York	Steamer ....

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No. 30.

1873, to 31st Dec., 1873, as compiled from Returns received by the Department nd Fisheries.

Register Tonnage.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	Lives lost.	Amount of Loss.
125	3 miles E. of Race Pt. Light, Mass	Stranded	Mistaking Light on shore.....	None...	Total, $3,500
596	Tom's Hole, U.S.	do	Cut by the Ice.....	do ..	Partial
205	Bilboa Bar	do	Squall...	do ..	Total, $12,000
107	10 miles S.W. of Bolt Head...	Explosion	Cargo of Naphtha...	do ...	do $2,500
2,376	Marr's Head, N.S.....	Stranded	Abnormal state of Current	545	do $550,000
408	....	Collision.....	....	.....	.....
575	Lat. 45° 50' N., Lon. 130° W....	Waterlogged..	Stress of Weather...	None...	Total, $23,500
158	Life Island	Foundered....	do ...	do ..	do $4,100
398	New Wolf Island, N.S.....	Stranded.....	Thick weather.....	do ..	do $10,000
220	Below Indian Cove, R. St. Lawrence.....	Collision. ...	..... .	do ..	Partial, $700
60	Off Liscomb, N.S.	Capsized.....	Stress of weather...	do ..	Total, $960
164	Lat. 49° 55' N., Long. 37° W.	Waterlogged ..	do	do ..	do $3,500
1,246	.....	Never heard of	Not known..... ...	All.....	do $36,000
94	Not known	Upset	Stress of weather....	3	do $4,000
55	Near Digby, N.S.....	Stranded	do	None...	Partial, $2,000
138	Louisburg, N.S.	do	do	do ..	do $3 912
123	36 miles S.W. of Sambro, N.S.	Dismasted	do	do ..	do $1,000
267	Lingan, N.S..... ...	Stranded.....	do	do ..	do $3,000
100	Lat. 34° N., Long. 67° 34' W.	Shipped water, keeled over, loss of masts.	do	2	Not known
253	Head of Sydney Harbor, C.B..	Stranded.....	Hurricane.....	None...	Partial, $4,000
.....	Cape Jack	do	....	.....	Damage trifling
133	N. Sydney Beach, C.B.	do	Hurricane.....	None...	Partial
126	Dipper Harbor, Bay of Fundy.	Foundered....	Leak.....	do ..	Total, $5,000, Cargo $1,000
382	Cow Bay	Stranded.....	Stress of weather ...	do ..	Total, $34,000
52	S.W. shore of Pleasant Bay, M.I.	do	Hurricane.....	do ..	Partial, $1,000
60	do	do	do	do ..	do $800
48	Amherst Harbor, M.I.	do	do	do ..	do $900
59	Pleasant Bay, M.I.....	do	Stress of weather ...	do ..	do $2 000
53	Amherst Harbor, M.I..... ..	do	do ...	do ..	do 1,200
36	Forchett Bay, Newfoundland..	do	do ...	do ..	.....
479	Grande Anse, G. St. Lawrence	do	do ...	do ..	Total, $15,000
1,308	St. Anne la Pocatiere, River St. Lawrence.....	do	do ...	do ..	Got into Winter Quarters
592	Bay of Fundy	Sprung a leak..	do ...	do ..	Partial, $3,000
89	Lat. 34°, Long. 68° W.....	Foundered....	do ...	do ..	Total, $4,500
112	Duck Island, Maine	Stranded on a ledge.....	Dark night	do ..	Partial, $1,011
119	S. W. Point, Island St. Croix.	Stranded . ..	Thick weather.....	None ..	Total, $20,000
141	At sea	Abandoned ..	Stress of weather....	do ..	do $3,000
694	About West-end Anticosti.....	Collision	Fog	do ..	
152	Scattari Island, N.S	Stranded	do	do ..	Partial
990	Cock Point, near Father Point .	do	Error of judgment ..	do ..	do $8,000
39	Guysboro' Harbor	do	Stress of weather ...	do .	do $1,500
835	Near Shelburne.....	do	do	do ..	Total, $20,000
218	Main à Dieu, N.S	do	do	do ..	do $6,000
131	Antigonish, N.S.....	do	do ...	do ...	do $2,500
45	Near Liverpool, N.S.....	do ...	do	do ..	do $600
395	At sea	Foundered....	do	4	do $8,000
1,951	Gull Rock Bar, N.S	Stranded ...	Str'ng in-shore cur'nts	None...	do $450,000

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STATEMENT to Wrecks and Casualties of Sea-going Vessels,

Date of Casualty.	Name of Vessel.	Age.	Port of Registry.	Port sailed from and Port bound to.	Rig.
1873.					
Feb. 23..	Curacoa	6	Windsor, N.S	.....	Barque ....
July 12..	China	17	North Shields	Leith to Quebec	Ship .....
Aug. 21..	C. W Lyle	16	Lunenburg, N.S...	Lunenburg, N.S	Schooner ..
21..	Carrie Douglas.....	8	St. Andrews, N.B.	Lingan, C.B. to Portsmouth, N.H	do ..
21 .	Commissioner.....	New	Pictou, N.S	Pictou, N.S. to Bermuda	Barque ....
24..	Charles E. Scammell	8	St. John, N B	Boston to St John	3m.Schooner
Oct. 9..	Champion of the Seas	19	Liverpool, G.B....	St. John, N.B. to Liverpool	Ship .....
Aug. 25..	C. B. Barrett.....	9	U. S. America	U. S to Gulf of St. Lawrence...	Schooner ..
25..	Catelena.....	15	do	do do ..	do ...
25..	C. P. Thompson	9	do	do do ..	do ..
24..	Charlotte Augusta ..	6	do	U. S. to Strait of Canso	do ..
Sept. 26..	Constance	21	Bristol.....	Quebec to River Plata	Ship .....
Nov. 10.	Canada.....	7	Quebec.....	Quebec to Monte Video	Barque ....
Oct. 12..	Cathrina	30	Tonsburg, Norway.	Quebec to London.....	do ....
0..	Comet.....	.....	.....	Charlottetown to England	do ...
24..	Caroline	74	Poole, England....	St. John, N.B., to London.....	do ....
Nov.	Constance	8	Halifax	Liverpool, G.B. to St. Martin's, W.I	Brigantine..
Aug. 24..	Confederate	1	P. E. Island	Anticosti. to P. E. Island	Schooner ..
Nov. 25..	Christina	10	do	Pictou, N.S. to River John, N.S	do ..
Feb. 23..	Duiveland.....	26	Halifax, N.S.....	Boston to Mauritius	Barque ....
Aug. 21..	Dusky Lake	12	Liverpool, N.S....	At anchor.....	Schooner ..
24..	David Henry	16	Arichat, N.S ...	Bound to Cape Breton	do ..
24..	Diploma	2	American.....	Booth Bay, U.S. to Gulf St. Lawrence	do ..
25..	D. H. Mansfield	14	do	U. S. to Gulf St. Lawrence.....	do ..
Nov. 18..	Dolphin	25	Halifax, N.S.....	Landevise, C.B., to Halifax, N.S	do ..
Feb. 18..	Easley	New	London.....	Havre to New York.....	Steamer....
June. 17..	Eliza Alice	1½	Halifax, N.S.....	Halifax to Amsterdam.....	Barque ....
20..	E. & F. Williams..	3	St. John, N.B	New Caledonia, C.B. to New York	Schooner ..
30..	Evelina Von Schroder	.....	Memel	Quebec to.....	Brig .....
July 31..	Elizabeth	25	Quebec.....	Gaspe to	Schooner ..
Aug. 25..	Electa...	2	St. John, N.B	At anchor.....	Barque ....
21..	Enoch Benner.....	12	Halifax, N.S.....	do	Schooner ..
16..	Eros	4	Kragero	Bremen to Quebec.....	Barque ....
June. 24..	Esk	8	Halifax, N.S.....	Boston to Halifax	Brigantine..
Aug. 24..	Ellen.....	19	Arichat, C.B.....	Sydney, C.B., to Halifax	Brig .....
24..	Euxine	55	St. Peter's, N'fdland	St. Peters, N'foundland. to Sydney	Schooner ..
24..	Ellen Jane...	2	Sydney, C.B	Rose Blanche to Sidney, C.B....	do ..
Oct. 7..	Erl King	8	Glasgow, G.B....	Montreal to Glasgow	Steamer....
Aug. 24..	E. S. Smith	15	American	Booth Bay, U.S. to Gulf St. Lawrence.....	Schooner ..
24..	Emma L. Rich.....	4	do	do do ..	do ..
Oct. 13..	Eliza Christie	3	Sydney, C.B	Quebec to Newfoundland	do ..
Sept. 25..	Emma Gilliatte	6	Annapolis, N.S....	St. Lucia to St. Thomas, W.I ..	do ..
Oct. 27..	Escape	16	Borrowstonness....	Glasgow to New York.....	Barque ....
Aug. 25..	Electric Flash	.....	Gloucester, U.S ...	Gloucester to Gulf St. Lawrence	Schooner ..
Dec. ...	Echo	12	St. John, N.B....	Salmon River, N.S. to St. John, N.B	do ..
Nov. 1..	Eliza Ferguson	6	Quebec.....	Chatham, N.B. to Antigonish, N.S	do ..
Aug. 24..	Ebro	11	Parrsboro', N.S...	.....	do ..

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from 1st January, 1873, to 31st December, 1873.—*Continued.*

Register Tonnage.	Place where Casualty happened	Nature of Casualty.	Cause of Casualty.	Lives lost.	Amount of loss.
232	Swash Channel	Collision		None	
813	St. Peter's Bank	do	Fog	do	Partial
32	Goose River	Stranded	Stress of weather	do	Total .$150
170	Louisburg	do	do	do	do $3,700
399	Near Cape St. George	Foundered	do	10	do $12,000
254	North Sidney Beach, C.B.	Driven on shore	do	None	Partial, $4,000
1,947	Bay of Fundy	Sprung leak	do	do	
61	Amherst Harbor, M.I	Stranded	do	do	do $1,700
57	do	do	do	do	do $2,400
60	do	do	do	do	do $1,360
57	Pleasant Bay	do		do	do $1,000
964	Victoria Cove, Quebec Harbor	do	Hurricane	do	Not known
384	East-end of Bicquet Island, St. Lawrence	Fire	Unknown	1	Total on vessel, $20,000
772	Coudres Island, River St. Lawrence	Stranded	Standing too close to shore, and not sounding regularly	None	Partial, not known
	Davis Point, P.E.I	do	Stress of weather	do	
601	Bay of Fundy	Sprung a leak.	do	do	do $3,500
129	St. Martin's, W.I	Stranded	do	do	Total, $8,000, Cargo $300
48	Fox Bay, Anticosti	do	do	do	Total, $3,000
25	Cape John, Nova Scotia	do	do	do	do $450
528	Lat. 27° 16', Long. 58° 09'	Abandoned	Unseaworthy	do	do $2,000
44	Canso	Stranded	Stress of weather	do	Partial
20	Guysboro' Harbor, N.S	do	do		Total, $400
75	S. W. Shore, Pleasant Bay, M.I	do	do	do	Partial $7,000
46	Amherst Harbor, M.I	do	do	do	do $1,000
47	Maria Joseph, N.S	do	do	do	Total, $1,500
969	Lat. 45° 50', N. Long. 53°, W.	Loss of masts, boats, &c	Stress of weather	None	Partial
582	Amsterdam	Burned	Fire		Total, $16,000
108	Unknown	Foundered	Stress of weather	5	do $4,800
214	St. Pierre Micquelon	Stranded	do	None	
52	Near Shallop Creek, Gulf of St. Lawrence	do	do	do	do $600
443	North Bar Sydney, C.B	do	do	do	Partial, $12,000
33	Canso, C.B	do	do	do	do
466	Off Goose Island	Collision		do	do $2,000
149	85 miles east of Boston	Capsized	Whirlwind	do	Total, $3,000
122	Strait of Canso	Sunk at anchor	Stress of weather	All lost suppos'd	do $1,400
58	North Sydney Beach, C.B.	Stranded	do	None	Partial
21	North Sydney Ballast ground	do	do	do	do
1,069	Montreal Harbor	Collision			Not known
66	S. W. Shore Pleasant Bay, M.I	Stranded	Hurricane	3	Total, $6,000
81	do do	do	do	None	Partial, $8,500
113	St. Lawrence River	Collision	Not known	do	do $700
143	Anegade Reef, W.I	Stranded	Stress of weather	do	do $2,500
255	Western Head near Lockport, N.S	do	do	do	Total, $5,000
82	Amherst Harbor, M.I	do	do	do	Partial, $3,000
50	Quaco, N.B	do	do	do	Total, $500
40	Hillsboro' Bay, P.E.I	Burnt	Lime cargo	do	do $1,600
99	Cow Bay, C.B.	Stranded	Stress of weather	do	do $700

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STATEMENT of Wrecks and Casualties to Sea-going Vessels,

Date of Casualty.	Name of Vessel.	Age.	Port of Registry.	Port sailed from, and Port bound to.	Rig.
1873.					
Feb. 4..	Fough a Ballagh	4	Halifax, N.S	Demerara to Baltimore.....	Brig .....
Dec. 5..	Florence.....	.....	St. John, N.B	Bahia to Queenstown.....	do .....
June 24..	Fanny Alice.....	5	Charlottetown, P.E.I	St. Thomas to Rodondo, W.I....	Brigantine..
Aug. 24 ..	Florence.....	2	St. John, N.B.....	Boston to Cow Bay, C.B.....	Schooner ...
24..	Formosa.....	New	Miramichi, N.B...	Richibucto to Liverpool	Barque ....
24..	Flirt	10	Lunenburg, N.S ..	Halifax to Antigonishe, N.S....	Schooner ...
25..	Freedom	15	U.S.A.....	U.S. to Gulf St. Lawrence.....	do ...
Jan. 24..	Falco	5	St. John, N.B	St. John, N.B., to Boston, U.S.	do ...
Aug. 24..	Frances Harriet	16	Yarmouth, N.S...	Yarmouth, N.S., to Pictou, N.S	do ...
Nov. 8..	Floride	6	Quebec	Richibucto, N.B., to Quebec....	do ...
Aug. 25..	Faith	8	Swansea, G. B.....	Wales to P. E. Island.....	Brig .....
25..	Far West	37	American	Gulf St. Lawrence to Gloucester.	Schooner ...
2..	F. N. Gisbourne ...	2	Sydney, C.B	Halifax to C.B.....	do ...
January..	George S. Wright ..	10	American	Oregon to Sitka, U. S.....	Steamer ....
Feb. 21..	G. W. Hunter.....	2	Yarmouth, N.S ...	St. John, N B., to Dublin	Ship .....
Aug. 21..	George Hughes	16	Arichat, C.B.....	At anchor	Schooner ...
12..	Gordon....	1	Yarmouth, N.S ...	Quebec to Monte Video	Barque.....
21..	Glorianna	30	Newcastle, N.B ...	London to St. John, N.B.....	Ship .....
27..	Gamma	1	Hull, G.B.....	Waterford to Montreal..	Steamer ....
24..	Guide	3	St. John's, N'fdland	Pernambuco to Sydney, C.B ..	Brigantine..
Sept. 14..	Ganges	5	Hull, G.B.....	Sydney, C.B., to Montreal	Steamer ....
Oct. 3..	G. F. Baird.....	1	St. John, N.B.....	St. John, N.B., to Norwich, N.S	Schooner ...
Aug. 25..	Good Intent	2	Arichat, N.S	Arichat, N.S.....	do ...
25..	G. I. Troop.....	3	do	Arichat, N.S., to Cow Bay, C.B	Brigantine..
25..	General Grant	8	U.S.A	U. S. to Gulf St. Lawrence....	Schooner ...
Oct. 30..	George S. de Forest.	6	St. John, N.B....	Hillsboro, N.B., to Boston.....	do ...
Nov. 25..	Greta	2	St. Andrew's, N.B.	Sydney, Cape Breton, to St. Andrew, N.B.....	do ...
June 20..	Gaspé	11	Quebec.....	Pictou to St. John's, N'foundland	Steamer ....
Jan. 29..	Humber.....	12	London	Machias Bay to St. John, N.B.,	Ship .....
July 2..	H. V. Cranwell.....	4	Parrsboro', N.S....	New York to Windsor, N.S	Schooner ...
July 14..	Hannah Hicks.....	20	Fowey, England...	Jamaica to Greenock.....	Brig .....
Aug. 24..	Hunter	20	St. John's, N'fdland	St. John's, N'fdland, to Sydney, CB	do ... ...
19..	Hound	2	Halifax, N.S	Halifax to Porto Rica, W. Indies	Brigantine..
24..	Harbe B	8	Boston, U.S.....	Boston, U.S.....	do ..
Sept. 25..	Heath Park	18	Dundee, G.B.....	Montreal to Liverpool	Barque ....
25..	Humbleton	3	Sunderland, G.B ..	London to New York	do ....
Aug. 24...	H. M. Woodward..	7	American	Booth Bay, U.S., to Gulf St. Lawrence	Schooner ...
25..	Highflyer.....	13	Gloucester, U.S ...	Gloucester, U.S., to St. Lawrence	do ...
Nov. 18..	Helen Patterson	4	Pictou, N.S	Liverpool, N.S., to Portland, U.S	Barque ....
Dec. 1..	Heron	6	Charlottetown, P.E.I..... ...	Charlottetown, P.E.I.....	Schooner ...

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from 1st January, 1873, to 31st December, 1873.—*Continued.*

Register Tonnage.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	Lives lost.	Amount of loss.
130	Currituck Beach, U.S.....	Stranded	Stress of weather ...	None...	Total, $4,000.
.....	At sea.....	Abandoned ..	do ...	do ...	do $9,000.
196	Anegada Reef, West Indies ...	Stranded	do ...	do ...	do $5,000.
158	Cow Bay, C.B...	do	do ...	do ...	do $7,000.
637	North Reef, Richibucto	do	Hurricane.....	do ...	Partial, $15 000.
44	Guysboro' Harbor, N.S	do	Stress of weather ...	do ...	do $400.
47	Amherst Harbor, M.I.....	do	do ...	do ...	do $1,000.
117	Folly Cove, Maine, U.S	do	do ...	.....	do $4,000.
42	Domingo Point, White Head Harbor, N S.....	do	do ...	do ...	Total, $1,000.
83	Shippegan Gully, N.B.....	Loss of sails and rigging.	do ...	do ...	Partial, $500.
261	Cascumpec Bay, P.E.I.....	Stranded	do ...	.....	Total, $7.000.
40	Port Mulgrave, N.S.....	do	do ...	do ...	Partial, not known
52	Baken Beach, C.B.....	do	do ...	do ...	do $1,000.
341	Queen Charlotte Sound, B.C..	do	Supposed during snow storm.....	30..	Total, $50,000
793	Old Proprietor Rock, Grand Manan, N.B.....	Stranded; abandoned..	Drunken crew	None...	do $28,000.
191	Lingan, C.B.....	Stranded	Stress of weather...	do ...	Partial.
604	Off Goose Island, River St. Lawrence	Collision	Pilot left his post ...	do ..	do $2,000.
891	Off St. Pierre, Miquelon.	Foundered ...	Stress of weather ...	1..	Total, $22,000.
1,457	Cape La Roche, River St. Lawrence	Grounded	do ...	.....	Partial, not known
146	Ballast Ground, N. Sydney, C.B	Drove on shore	Hurricane.....	None...	Partial, $524.
1,543	Cape St Charles, River St. Lawrence.....	Stranded while	in charge of pilot ...	do ...	do $30,000.
94	Bliss Island, N.B., E. entrance to Harbor.....	Stranded	Snow storm	do ...	do $4,000.
12	Probably St. George's Bay, Newfoundland.....	Filled with water	do	7..	Total, $100.
320	Cow Bay, C.B.....	Stranded	Stress of weather ...	None...	do $13,900.
89	Pleasant Bay, Magdalen Islands	do	do ...	do ...	Partial, $7,000.
75	West Quoddy, N.B.....	do	do ...	do ...	Partial, $1,800.
147	Fisherman's Cape, N.S	do	do ...	do ...	Total, $4,000.
232	Miquelon Island, N'foundland.	do	Fog	do ...	do $18,000.
1,400	Grand Manan, Bishop's Head, N.B	do	Thick weather.....	do ...	do $40,000.
154	South Head of Grand Manan, N.B.	do	Fog and unknown currents.....	do ...	do $4,500.
194	Lat. 49° 25' N., Lon. 36° 30' W.	Foundered ...	Sprung a leak	do	do $4,000.
130	North Sydney Beach, C.B	Stranded	Stress of weather ...	do ...	do $1,300.
131	Lat. 24° 36' N., Lon. 63° 2' W..	Wrecked at sea	Hurricane.....	3..	do Cargo alone, $9,000.
299	Cow Bay, C.B	Stranded	Stress of weather ...	None...	Total, $13,000.
319	Quebec Harbor	Collision.....	Darkness; pilot in charge	do	Partial, about $200
420	Sable Island.....	Stranded	Fog	do ...	Total, $16,000.
91	S.W. shore of Pleasant Bay, M.I	do	Hurricane.....	.....	Partial, $8,000.
60	Amherst Harbor, Magdalen Islands..	do	do	do ...	do $2,000.
373	Neal's Ledges, N.S	do	Stress of weather ...	do ...	Total, $7,000.
29	Crane Point, P. E. Island	do	do ...	do ...	do $700.

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STATEMENT of Wrecks and Casualties to Sea-going Vessels,

Date of Casualty.	Name of Vessel.	Age.	Port of Registry.	Port sailed from and Port bound to.	Rig.
1873.					
July 12...	I la E	7	St. John, N.B....	Cuba to New York	Barque. ....
Oct. 11..	I le of Skye.....	5	Liverpool, N.S.. ..	Mexico to New York.	do ....
Aug. 24..	I da..... ..	9	Halifax, N.S.	Arichat, N. S., to Gulf of St. Lawrence	Schooner....
25..	I la May	8m	Lunenburg, N.S...	Halifax to Gulf St. Lawrence....	do ....
Dec. 5, '72	James W. Elwell ...	3	St. John, N.B.....	Swansea to Valparaiso	Barque.....
Mar. 12,'73	John Macdonald	5	do	Hillsboro, N.B., to Newark, U. S.	Brigantine .
July 4..	J. S. Smith.....	3	Parrsboro, N.S. ...	Parrsboro, N.S., to Queenstown.	Barque.....
Aug. 24	J. Morton	9	Halifax, N.S	Halifax to Porto Rico, W.I.....	Schooner ...
27..	James Jardine	16	Liverpool, G.B....	Quebec to Liverpool	Ship.....
24..	J. K. Howard.....	3	St. John, N.B.....	St. John, N.B., to Sydney, C. B. .	Schooner ...
24..	Jeddo	15m	do do	St. John, N.B., to Cow Bay, C.B..	do ....
24..	Jane	.....	British.....	P.E.I. to St. Paul's Island, Gulf of St. Lawrence.....	do ....
24..	John Gilpin	.....	Halifax.....	Sheet Harbor, N.S., to Sydney, C.B.	do ....
Oct. 7..	John Givin	8	Liverpool, N.S.....	Philadelphia to Yarmouth, N.S.	Brigantine..
Dec. 5..	Jessie Hoyt	New	Pictou, N.S.	Sydney, C.B., to St. John, N.B..	Schooner . .
5..	Janet Forbes.....	6	do do	Charlottetown to G. B.....	Barque.....
Oct. 30..	Jerome Jones.....	4	Yarmouth, N.S. ..	Yarmouth, N.S., to Havana	do .....
Nov. 25..	Jenny Lind.....	12	Magdalen Islands...	Halifax to Magdalen Islands....	Schooner ...
May 29..	James Maury.....	48	Boston, U S.....	Musquash, N.B., to Queenstown.	Barque.....
.....	J. C. Lamb.....	1	St. John, N.B.	New York to Queenstown.....	do .....
Aug. 25..	Kate McClintock ...	4	U.S.A..... ..	U.S. to Gulf St. Lawrence.....	Schooner ...
25..	Katie.....	6	P. E. Island.....	Straits of Canso to do	do ...
Oct. 8..	Kedron....	9	St. Andrews, N.B.	Parrsboro, N.S., to Liverpool, N.S	do ...
Nov. 13..	King Bird	6	St. John, N.B.....	Sydney, C.B., to St. John, N.B.	do ...
Aug. 24..	Kenadine.....	6	P. E. Island	Wales to P. E. Island.	Brig.. .....
Feb. 12..	Linda.....	4	Antigonish, N.S...	....	Schooner ...
Aug. 24..	Lord Bury.....	14	Halifax, N.S	At anchor	do ....
21..	Leading Star	3	St. John, N.B.....	At anchor	do ....
24..	Lizzie Irvin.....	3	St. John, N.B.....	Cow Bay, C.B., to St. John, N.B...	do ....
24..	Laura E. Chester ...	9	U.S.A	U.S. to Gulf of St. Lawrence....	do ....
Sept. 23..	Liberty.....	31	Newcastle, G.B....	Port Glasgow to Quebec	Barque.....
Oct. 13...	Lady Head	16	Scarborough.....	Sunderland to Quebec.....	do .....
11..	La Imperatrice.....	6	Quebec.....	Quebec to Malpec, P.E.I.....	Schooner....
Nov. 28..	La Tour.....	New	St. John, N.B....	Drogheda, Ireland, to Little Glace Bay, N.S	Schooner ...
Sept. 4..	Lothair	2	do	Maracaibo to New York.....	do ...
Dec. 13..	Linga	New	do	St. John N.B to Bermuda	do ...
Aug. 25..	Lizzie R.....	1	....	Sydney, C.B. to New York... .	do ...
Jan. 3..	Marquis of Lorne ...	2	Sydney, C.B	Sydney, C.B. to Cien Fuegos, West Indies	Barque. ...
7..	May	5	Parrsboro, N.S....	Ratchford River to St. John, N.B.	Schooner ...
Mar. 12..	Morocco	4	St. John, N.B....	Mobile to Liverpool.....	Barque.....
April 18..	M. A. Harrera.....	15	St. Andrews, N.B..	Cardenas to Baltimore..... ...	Brig .....
June 17..	Mary Ellen	.....	Gloucester, U.S ...	Gloucester, U.S., to Gulf St. Lawrence.....	Schooner ..
Feb. 23..	Maria.....	10	Yarmouth, N.S ...	Galway to St. John	Barque.....
July 12..	Margaret	.....	Liverpool, G.B....	Boston to Pictou, N.S.....	Ship .....
June 10..	M. B. Nickerson....	3	Parrsboro, N.S	Boston to Cow Bay, C.B.....	Brig.....

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from 1st January, 1873, to 31st December, 1873.—*Continued.*

Register Tonnage.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty	Lives lost.	Amount of Loss.
372	Ship Head Bay, L.I., N.Y. ..	Stranded	Fog	None...	No damage
250	At sea	Disabled	Stress of weather....	do ..	Total, $7,000
27	Amherst Harbor, M.I.....	Stranded	Hurricane	do ..	Partial, $400
45	Pleasant Bay, Magdalen Islands	do	do	do ...	do $400
796	150 miles W. of Cape Pillar....	Burned.....	Unknown.....	10	Total, $35,000
241	10 miles from Martin's Head, B.E.....	Foundered ...	Stress of weather ...	None ..	Total, $12,000
396	Mud Island, off Cape Sable, N.S.	Stranded	Fog	do ..	Partial, $3,000
129	Lat. 36° 24' N., Long. 64° 20' W.	Foundered ...	Stress of weather....	do ..	Total, $5,000
811	Mid Ocean.....	Water-logged.	do do	do ..	Partial.
99	North Sydney, C.B.	Stranded	Hurricane	do ..	Partial, $1,000
103	Cow Bay	do	do	do ..	Total, $10,000
49[illegible]	On Eastern Bar, Cheticamp, N.S	do	Stress of weather ...	do ..	Partial, $250
62	North Sydney, C.B.	do	do do ...	do ..	Total, $600
185	Middle Ground, Yarmouth Harbor, N.S	do .. .	do do ...	do ..	Total, $4,000
276	Little River, near St. John, N.B.	do	do do . .	do ..	Partial, $7,200
412[illegible]	Davis Point, P.E. Island	do	do do ...	do ..	....
636	Bahama Channel, W. Indies...	do ..	do do ...	1	Total, $18,000
39	Pleasant Bay, W.I	do	do do ...	None ..	Partial, $400
431[illegible]	10 miles West of Musquash, N.B	Grounded while in tow of tug	Not known	.....	Parti $6,000
482[illegible]	At sea.....	Never heard from.	do do	.....	Total, $14,400
73	Amherst	Stranded	Stress of weather....	None ...	Partial, $2,000
60	Amherst Harbor.....	do	do do	do .	do $1,200
118	Seal Islands, N.S.....	do	Sunken rock not on chart.....	do ..	do $1,200
149	Point Micheau, C.B.....	do	Stress of weather....	do ..	Total, $6.000
268	Cascumpec Bay.....	do	do do ...	do ...	do $10,000
155	Lat. 41° 44' N., Long. 63° 54' W.	Disabled and abandoned..	do do	do ..	Total, $4,500
47	Isaac Harbor, N.S.....	Stranded	do do	.....	Partial, not known
141	Middle River, N.S.....	do	do do	None...	Total, $6,000
172	At sea.....	Supposed to have foundered	Hurricane	7	Total, $18,000
69	Amherst Harbor, M.I.....	Stranded.....	do	None ..	Partial, $2,400
575	Harbour of Quebec.....	do	Error of Pilot.....	do ..	Not known
664	St. Lawrence River.	Collision	Not known	do ..	Not known
40	Malpec Harbor	Stranded	Current.....	do ..	Partial, $800
199	Louisburg, Cape Breton	Stranded	Stress of weather....	None ..	Total, $15,000
195	Bar near San Carlos.	do	do	.....	Total, $12,000
200	Herring Cove, Campobello, N.B	do ...	Snow storm	None ..	Total, $15,700
210	At Sea.....	Never heard from.	....	.....	Total, $6,000
406	East Harbor, C.B	Stranded	Stress of weather....	None ..	Total, $12,000
34	Apple River, N.S	do	do	do ..	Partial
665	At sea.....	Burnt	Took fire	do ..	Total, $25,000
396	Cape Henry, N.S.....	Stranded	....	.....	
54	Bar, eastern side Port Hood, N.S	.....	Error of judgment ..	None ..	Partial.
590	Galway Bay.....	do	Stress of weather....	do ..	
965	Off Canso, N.S.....	Struck on rock.	Not known	..... .	Not known
172	Bald, Tusket Island, N.S.	Stranded .	Thick fog.....	None ..	Partial, $4,800

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STATEMENT of Wrecks and Casualties to Sea-going Vessels,

Date of Casualty.	Name of Vessel.	Age.	Port of Registry.	Port sailed from and Port bound to.	Rig.
1873.					
June 20..	Mary Jane	2	Halifax, N.S	Liverpool to Sydney, C.B	Bark .....
20..	Merriam	.....	Boston, U.S	Boston to St. John, N.B..... ..	Schooner ...
Aug. 3..	Maryland	20	New York	Port Caledonia, C.B., to New Bedford, Mass..... ..	do ...
July 11..	Merritt	9	Montreal.....	Montreal to Pictou, N.S.....	Steamer ....
Aug. 11...	Maggie B.	2	Miramichi, N.B..	Miramichi, N.B. to Pictou, N.S.	Schooner ...
Dec. 11..	Mary	15	Magdalen Islands..	Magdalen Islands to Pictou, N.S.	do ...
Aug. 19..	Matilda B.....	....	Halifax, N.S. ...	Sydney, C.B. to Cuba	Brigantine..
22..	Miramichi...	9	Quebec	Pictou, N.S. to Quebec.....	Steamer ....
June 18..	Memento.....	20	St. John, N'fdland	St. John, N.B. to Rose Blanche	Schooner ...
Aug. 21..	Messina.....	7	Digby, N.S	Wallace, N.S. to Boston U.S..	Brigantine...
21..	Mary Hart.....	14	Arichat, C.B	Halifax to Cape Metor, N.S...	Schooner ...
25..	Margaret Jane.... .	6	Miramichi, N.B ..	At anchor	do ..
24..	Maria Joseph	7	Halifax, N.S.....	Bay Chaleur to Halifax, N.S...	do ..
21..	Martha A	2	St. Andrews, N.B.	Sand Point, St. John, N.B.....	do ..
24..	Mary Jane	16	Swansea	St. Pierre to St. John N.B.....	do ..
24..	Maggie	1	Halifax, N.S	Arichat, N.S. to Sydney, C.B..	do ..
24..	M. Sewell	21	Deer Island, Maine U.S	Boston to Port Caledonia, C.B..	do ..
24..	Mary & Charles	7	St. John, N.B.....	Arichat, N.S. to Sydney, C.B..	do ..
24..	Mexican	6	do ...	Glasgow to St. John, N.B.....	Barque .....
24..	Messenger	17	Halifax, N.S.....	Margaree, C.B. to P.E. Island.	Schooner ...
Sept. 6..	Medway	8	London, England..	Quebec to London.....	Steamer ....
29..	Mary Grace	3	Parrsboro, N.S ...	New York to Parrsboro, N.S...	Brigantine..
Aug. 24..	Mary Margaret.....	4	P.E. Island ...	P.E. Island to Magdalen Islands	Schooner ...
24....	Mary Ann.....	15	Magdalen Islands..	Magdalen Islands to Labrador ..	do ...
24..	Marion Grimes.....	13	U.S..	U.S. to St. Lawrence	do .
Aug. 25..	M. J. Elliot	21	do	do	do ..
Nov. 18..	Marchioness of Queensbury.....	49	Hull, G.B	Quebec to Hull.....	Barque.....
Oct. 30..	Moselle	3	St. John, N.B....	Liverpool, N.S., to St. John, N.B.	Schooner ...
Nov. 25..	Magaguadavic.....	7	do	Shelburn, N.S., to St. John, N.B.	Brigantine .
25..	Minnie R. McKenzie	7	P. E. Island.....	Charlottetown, P.E.I., to St. John, N.B.....	Schooner ...
Dec. 5..	Maria Catharina....	1	Miramichi, N.B...	Halifax, N.S., to Chatham, N.B.	do ..
Nov. 8..	Maria Emma..... .	9	Quebec	Newfoundland to Quebec	do ..
Aug. 24..	Mischief	19	Miramichi, N.B...	Cruising off Miramichi.....	do ..
Jan. 14...	Mary Jane	.....	Liverpool, G.B. ..	St. John, N.B., to Liverpool ..	Ship .....
Nov. 25..	Maggie Cummins...	New	P. E. Island.....	P.E.I. to Shediac, N.B.	Schooner ...
July —..	Magdala	5	St. John, N.B....	Annapolis, N.S., to Cuba	Brigantine .
Feb. 4..	M. McFarlane	3	Halifax, N.S.....	London to Baltimore.....	Brig .....
July 4...	Neptune	15	Gloucester, U.S...	Nova Scotia to Gloucester, U.S.	Schooner ...
27..	Neriel	10	St. John, N.B....	Philadelphia to Liverpool.....	Parque .....
Aug. 24..	Napier	19	Halifax, N.S.....	New Dock, C.B., to Halifax, N.S.	Schooner ...
24..	Nancy	14	St. Pierre, N.S....	do do	do ..
24..	Native	9	Sydney, C.B.....	Sydney, C.B., to Halifax, N.S.	do ..
Sept. 20..	Nelson	3	St. John, N.B...	New York to St. John, N.B	do ..
Nov. 15..	New Dominion	11	Quebec	Quebec to Batiscan.....	Steamer ....
Dec. 5..	Nine Brothers	7	Charlottetown.....	Pictou, N.S., to Tatamagouche, N.S.	Schooner ...
June 12..	Northern.	8	Quebec.....	Montreal to Pictou, N.S.....	Steamer ....

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from 1st January, 1873, to 31st December, 1873. —*Continued.*

Register Tonnage.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	Lives lost.	Amount of Loss.
636	Near Skerries, England	Stranded	Stress of weather	None	Not known
250	Grand Manan, N.B	do	Fog	do	Total, £7,000
197	Maria Joseph, N.S	do	do	do	Total, $4,000
980	Magdalen Islands	do	do	do	Total, $10,000
85	Pictou, N.S	Scuttled when on fire	Water got to cargo of lime in hold	do	Total, $2,400
34	Merrigonish, N.S	Stranded	Error of judgment	do	Partial, $300
179	Livingstonledge, U.S	do	Miss-stays	do	Not known
491	Green Island, river St. Lawrence	do	Fog	do	Partial, $15,000
93	Renews Rock, Bay of Fundy	do	Struck rock	7	Total, $1,300
119	Canso, N.S	do	Stress of weather	None	Partial, $2,400
27	Owls Head, N.S	do	do	do	Total, $100
48	Buctouche, N.B	do	do	do	Total, $900
57	Canso, N.S	do	do	do	Total, $1,800, cargo $800, Total $2,600
180		do	do		Total, $5,400
122	N. W. arm Sydney Harbour, C.B.	Drove on shore.	Stress of weather and its duration	None	Partial, $1,600
118	North Sydney Beach, C.B	do	do	do	Total, $3,500
136	Point Edward, South side of Harbor	Stranded	Hurricane	do	Partial, $2,500
55	N. Sydney Beach, C.B	do	do	do	Total, $300
520	Cow Bay, C.B	do	do	do	Partial, $4,000
21	Not known	Foundered	do	7	Total, $150
1,846	North Point of Ferruleledge, Newfoundland	Stranded	Fog & strong currents	7	Total, £40,000 stg.
146	Outer Shots Island, Maine	do	Stress of weather	None	Total, $6,000
26	Amherst Harbour, M.I	do	do	do	Partial, $200
36	Labrador Coast	do	do	do	Total, $400
61	Amherst Harbour, M.I	do	Hurricane	do	Partial, $1,000
53	do	do	do	do	Partial, $600
681	Hare Island, River St. Lawrence.	do	Stress of weather		Towed off, without damage.
108	Musquash, 12 miles S.W. St. John, N.B	Stranded	Stress of weather	None	Total, $4,000, Cargo $450
311	Grand Manan, Bay of Fundy	do	A snow storm	do	Total, $11,000
56	Point du Chene, Shediac, N.B	do	do	do	Partial
88	Buctouch, N.B	do	do	do	No damage
35	Rock Bay, N.F.L	do	Leak	9	Total, $1,000
25	Never heard of	do	Not known	3	do $300
787	Manawagonish, N.B., Bay of Fundy	do	Stress of weather	None	Partial, $5,300
297	Point du Chene, N.B	do	do	do	Trifling damage
214	Fullerton's Ledge, Annapolis River, N.S	Stove in bottom	Started too late on ebb tide	do	Partial, $600
349	Curretuck Beach, U.S	Stranded	Stress of weather	do	Total, $10,000
29	Long Cove Ledges, 1 mile W. of Port Medway, N.S	do	Error in judgment	do	do $1,750
563	Not known	Foundered	Stress of weather	13	do $12,000
55	White Head, S. 8 or 10 miles	do	Hurricane	None	do $500
63	North of Sydney Beach, N.S	Stranded	do	do	Partial.
113	Unknown	Unknown	do	7	Total, $4,600
149	Mace's Bay, Charlotte Co., N.B.	Stranded	Compass	None	do $9,000
38	St. Croix Bay, River St. Lawrence	do	do	do	
89	Wallace, N.S	do	Stress of weather	do	do $2,500
904	St. Lawrence Port, Isle of Orleans	do	Error of judgment	do	Partial, $60,000

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STATEMENT of Wrecks and Casualties to Sea-going Vessels,

Date of Casualty.	Name of Vessel.	Age.	Port of Registry.	Port Sailed from and Port Bound to.	Rig.
1873.					
Nov. 13..	Norland.....	7	Quebec	Wallace, N.S., to Quebec	Schooner ...
Aug. 24..	N. Churchill	7	Yarmouth, N.S. ..	Halifax, N.S., to New York....	Barque.....
May 25...	Ocean Pearl.....	7	Cardiff, G.B....	Liverpool to Quebec.....	Ship .....
Aug. 21..	Oak Point.....	8	Halifax, N.S	Halifax to Greenland	Brig .....
July 1...	Ocean Belle	11	do	Saving Cargo of Minerva at St. Paul's Island	Schooner ...
Aug. 24..	Oliver Eldridge.....	2	American	U.S., to Gulf of St. Lawrence..	do ...
Sep. 22..	Ottawa.....	20	Glasgow	Greenock to Quebec.....	Ship .....
Oct. 25..	Oder	11	Pictou, N.S	Pictou, U.S., to Portland, U.S.	Barque.....
Nov. 29..	Onward	16	Yarmouth, N.S ...	Sydney, C.B., to Yarmouth, N.S.	Schooner ...
Aug. 24..	Orloff	1	Parrsboro, N.S....	Parrsboro, N.S., to Cow Bay, C.B	Brigantine..
June 30...	Precursor	3	Hull, G.B	Pictou, N.S., to Montreal	Steamer....
Nov., 1872	Pioneer	8	Parrsboro, N.S....	Windsor to Boston	Schooner ...
Aug. 24, '73	P. R. C.....	44	Jersey, G.B	Arichat, N.S., to Pictou, N.S..	Brigantine..
24..	Peter and John	4	Hawkesbury, N.S .	Halifax to Wallace, N.S.....	do
Sep. 27..	Persian	31	Liverpool, G.B. ..	Quebec to Miramichi, N.B.....	Barque .....
Nov. 18..	Protem.....	8	Swansea, G.B	Montreal to Plymouth	Brig... ..
Sep. 27..	Potosi.....	8	Liverpool, N.S ...	Trinidad to St. Thomas, W.I..	Brigantine..
Nov. —..	Pictou.....	11	Quebec.....	Quebec to Pictou, N.S.	Steamer....
May 15..	Philadelphia.....	24	Newcastle, G.B ...	Newcastle to Quebec	Ship .....
Aug. 25..	Ploughboy..... ..	10	Gloucester, U.S ...	Gloucester, U.S., to Gulf of St. Lawrence.....	Schooner ...
Dec. 2..	P. C. Copeland	1	St. John, N.B	New Bandon, N.S., to Boston, W.I	Schooner ...
Aug. 24..	Quick	7	Arichat, N.S	Cheticamp, C.B., to Gulf of St. Lawrence...	do ...
Sep. 27..	Queen of the Clyde.	15	Glasgow, G.B	Quebec to Greenock	Barque.....
Mar. 12..	Royal Sovereign	8	St. John, N.B.....	Pictou, N.S., to ———	Brig. .....
Feb. 28..	R. A. Ford.....	5	do do	St. John, N.B. to Providence, R.I.	Schooner ...
June 30..	Reaper.....	3	Barrington, N.S ..	Greenland to Philadelphia.....	Brigantine..
Aug. 21..	Renfrew..... ..	12	Halifax, N.S.....	At anchor	Schooner ...
21..	Rebecca Ann.....	7	Sydney, C.B.....	do	do ...
21..	Robert Bruce	29	Arichat, C. B	At anchor, Guysboro, N.S.	do ...
24..	Ruby	33	Guysboro, N.S....	Halifax to Magdalen Islands....	do ...
Sept. 21..	Rivoli.....	6	Quebec.....	Barbadoes to Quebec	Barque.....
Nov. 15..	Red Island Light Ship	3	Quebec.....	Anchored off Red Island Reef..	Light Ship.
Nov. 24..	Richmond	14	P.E. Island.....	Pictou, N.S., to Wallace, N.S.	Schooner . .
Aug. 24..	Rambler	4	Miramichi, N.B...	Cruising off Miramichi..	do ....
July 1..	Rolling Wave	3	St. John, N.B.....	Providence, R.I., St. John, N.B.	do ...
Feb. 13..	R. H. Dexter.....	15	Windsor, N.S.....	Cheverie, N.S., to Boston.....	do ...
March 3..	Scud..... ..	New	St. John, N.B....	St. John, N.B., to Cardenas, Cuba	Brigantine..
April 26..	Sylph.....	22	St. Johns, N'fdland	St. Johns, Newfoundland, to Sydney, C.B	Schooner ...
June 17..	Sea Foam	5	Arichat, N.S.... .	Halifax to Mabou, Newfoundland	do ...
17..	Smile.....	8	Quebec.....	Pictou, N.S., to Port Hood, N.S.	do ...
June 7..	Seaview....	12	Liverpool, N.S....	Liverpool, N.S., to Boston, U.S.	do ...
July 24..	Scotia.....	New	Quebec	Quebec to Liverpool..... .	Ship.... ...
Aug. 10..	St. Louis.....	23	St. John, N.B.....	Liverpool to Philadelphia..... .	do .....
14..	St. Vincent	17	Arichat, N.S	Halifax to Valencia.....	Brigantine .
24..	Saltwell.....	1	Newcastle, G.B . .	London to Sydney, C.B	Steamer....
24..	Samuel Jones	20	Arichat, N.S.....	At anchor.....	Schooner ...
24..	Sappho....	3	St. John, N.B.....	New York to Antigua, W. I....	do ...
24..	Silver Lake.....	16	American	Booth Bay, U.S., to Gulf of St. Lawrence.....	do ...

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from 1st January, 1873, to 31st December, 1873.—*Continued.*

Register Tonnage.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	Lives Lost.	Amount of Loss.
89	Carribou Isle, St. Lawrence River	Stranded	Stress of weather	None	Total, $2,000
610	Cow Bay, Cape Breton	do	do	do	Partial
960	West end Anticosti Island	Collision	Fog	do	Partial, $800
257	At sea	Foundered	Stress of weather	do	Total, $10,000
50	St. Paul's Island	Stranded	do		do $5,000
66	Pleasant Bay, M.I.	do	do		Partial, $3,000
1046	Middle ground Traverse St. Lawrence River	do	Error of Pilot	do	do $4,000
332	Madame Island, Cape Breton	do	Stress of weather		Total, $6,000
61	Scatterie Island, do	Foundered	do	do	do $1,500
235	Cow Bay, do	Stranded	do	do	Partial, $3,700
791	River St. Lawrence, near Montreal	do	Error of Pilot	do	do $15,000
100	Courtenay Bay, St. John, N.B.	do	Stress of weather		Total, $3,000
104	S.E. Point, Pictou Island	do	do	do	do $1,000
216	Cape Arichat, C.B.	do	do	do	do $11,000
582	Lat. 45° 47′ N., Lon. 64° 37′ W	Sprung leak	do	do	Partial, $5,000
291	Cape au Diable, S. Lawrence	Stranded	do	do	do $6,000
239	Lat. 17 5′ N., Lon. 65° 10′ W	Dismasted and Stranded	do	do	do $8,000
544	On voyage	Not heard of	do	do	do $46,000
1259	Bird Rocks, St. Lawrence Gulf	Stranded	Not known	do	do $20,000
14	S.W. side, Amherst Harbor, M.I	do	Stress of weather	do	Partial, $200
145	Country Harbor, N.S.	do	do		Total, $10,000
13	Amherst Harbor, M.I.	do	Hurricane	do	do $100
1,045	Green Isle, Straits of Belle Isle	do	Unknown currents		Total, $20,000
330	Glasgow Head	Stranded	Stress of weather	None	Partial, not known
114	Mouth of Booth Bay Harbor, U.S	do	do do	do	Total, $7,400
183	Scatterie, N.S	do	Strong current and fog	do	do $16,500
42	Isaac's Harbor	do	Stress of weather	do	Not known.
123	Cape Bold	do	do do	do	Total, $2,400
26	Guysboro', N.S.	do	do do	do	do $400
23	W. side of Port Hood Harbor	Breaking of all chains	do do	do	Partial, $400
405	Point au Basque	Stranded	Deviation of compass	1	Total, $14,500
161	White Island Reef	do	Stress of weather	None	do $36,000
26	Cape John, N.S.	do	do do	do	do $500
15	Not known	Never heard of	do do	3	do $300
80	Lepreaux., N.B	Stranded	Stress of weather and fog	None	do $2,500
96	Mount Desert, U.S.	do	Stress of weather	do	do $1,000
349	N. side Samana, W. I.	do	do do	do	Total, $29,000
108	White Point, C. B.	do	do do	do	do $500
47	Port Hood, N. S.	do	Broke from fastenings	do	Partial, $600
22	Public Wharf, Port Hood, N.S	do	do do	do	do $250
87	4 miles S E. of Baker's Island	do	Fog	do	Total, $2,000
1,500	Point Rich	do	Stress of weather	do	do $48,000
849	Cape Pine	do	do do	do	do $25,000
162	Port la Tour, N.S.	do	do do	do	Partial, not known
1,167	Off Scatterie, N.S.	Foundered	do do	6	Total, $150,000
46	Cheticamp, C.B.	Stranded	do do	None	Total, $1,400
126	Lat. 34° 10′ N., Lon. 67° 5′ W.	Abandoned	do do	do	do $5,000
96	SW. shore Pleasant Bay, M.I.	Stranded	Hurricane	do	Partial, $3,700

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STATEMENT of Wrecks and Casualties to Sea-going Vessels,

Date of Casualty.	Name of Vessel.	Age.	Port of Registry.	Port sailed from and Port bound to.	Rig.
1873.					
Aug. 24..	Snow Squall.....	20	American	Booth Bay, U.S., to Gulf of St. Lawrence.....	Schooner...
25..	Samuel J. McKown.	4	do	do do do	do ...
25..	Swift	47	Jersey, Channel Islands.....	Labrador Coast to Magdalen Islands	Barque .....
Oct. 16..	Star of the Sea....	10	Parrsboro, N.S....	Bay Chaleur to Boston	Schooner...
18..	St. George.....	2	St. John, N.B,....	Plying in St. John Harbor, N.B.	Steamer ....
.....	Spring Bird.....	28	Halifax, N.S	Sydney, C.B., St. John, N.B...	Schooner...
30..	St. Kevin	12	Dublin, G.B	Quebec to Liverpool.....	Ship .....
8..	Snipe	4	P.E.Island	P.E.Island to Newfoundland...	Schooner...
18..	St. Luce	6	Quebec.....	Cape Breton to Montreal	do ...
18..	Surprise	9	St. John, N.B.....	Joggins, N.S., to St. Martin's, N.B	do ...
24..	Sebastopol.....	14	Yarmouth, N S ...	Pictou, N.S., to Yarmouth, N.S.	Brigantine..
Aug. 3.	Sarah Jane.....	6	Parrsboro', N.S	West Indies to New York.....	Schooner...
Mar. 27..	Stella Maris	8	France.....	Halifax to St. Pierre Miquelon .	do ...
Aug. 24..	Sylvia.....	.....	Norwegian	In Richibucto Harbor....	Barque ....
21..	Three Sisters	10	Quebec	At anchor	Brigantine...
25...	Thetis....	1	Lunenburg, N.S ..	.....	Schooner...
24..	Temperance	12	Arichat, N.S.....	Halifax to Sydney, C.B	do ...
24..	Typhoon	20	U. S. A.....	U.S. to Gulf St. Lawrence	do ...
Nov. 7..	Tangier	12	Liverpool, G.B....	Pensacola to Liverpool	Ship .....
Aug. 25..	Tally Ho !.....	10	Gloucester, Mass ..	Gloucester, U.S. to Gulf St. Lawrence.....	Schooner...
25..	Tyro	10	Halifax, N.S	Coast of Labrador to Brooklyn, United States.....	do ...
21..	T. H. Haveland	9	Arichat, N.S.....	New York to Lingan, N.S.....	Brigantine..
Nov. ..	Thornhill	25	Fleetwood, G.B ...	Quebec to Liverpool.....	Barque.....
Aug. 24..	Union.....	12	Lunenburg, N.S...	Prince Edward Island to Port Hood, N.S	Schooner...
24..	Undine	9	Liverpool, G.B....	North Cape, Prince Edward Island to Liverpool.....	Barque ....
Feb. 5..	Victoria.....	8	St. John, N.B	Cuba to St. John, N.B.	Brigantine..
Aug. 19..	Veritas	7	Annapolis, N.S. ..	Turks' Island to Providence, R.I.	Schooner...
24..	Vernon	1	St. John, N.B.....	Boston to Sydney, C. B.....	do ...
24..	Venture	2	Sydney, C.B.....	do	Barque.....
24..	Volant	10	St. John's, N'fdland	St. John, N. B.....	Brig .....
25..	Vanguard	5	U. S. America	U. S. to Gulf of St. Lawrence .	Schooner...
July 1..	W. F. Adams	6	Greenwich, King's Co., N.B	Providence, R. I., to St. John ..	do ...
May 31..	Wolfville.....	32	Troon, Ireland	Troon to Quebec.....	Barque ....
Aug. 1..	Wild Hunter	12	Halifax, N.S.....	Lisbon to Halifax, N. S.....	Brigantine..
8..	William Welsh	.....	Philadelphia, U.S.	Philadelphia to Pictou, N. S....	Brig .....
Nov. 12..	Will of the Wisp	10	Parrsboro' N.S....	Cornwallis to St. John, N. B....	Schooner...
Aug. 25..	Willow Brae.....	1	Pictou, N.S	At anchor.....	Brigantine..
21..	Werehere	.....	Beverley, Mass....	do	Schooner...
Feb. 18..	William.....	7	St. John, N.B.....	St. John, N. B., to Havana	Brigantine..
Nov. 18..	Wolf's Cove	42	Newcastle, G.B....	River Ouelle, Quebec, to London	Barque ....
Sept. 15..	Wyoming	3	Liverpool, G.B....	Liverpool to New York	Steamer...
Aug. 25..	W. J. Starkie	1	St. John, N.B.....	Cow Bay, C. B., to Boston, U. S.	Schooner..
Aug. 24..	White Star.....	19	Belfast.....	Richibucto, N.B., to Liverpool..	Bark.....

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from 1st January, 1873, to 31st December, 1873.—*Continued.*

Register Tonnage.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	Lives lost.	Amount of Loss.
46	Amherst Harbour, M. I.	Stranded	Hurricane	None...	Partial, $700
90	Pleasant Bay, M. I.....	do	do	do ..	do $1,000
154	Amherst Harbour, M. I	do	do	do ..	do $1,200
65	Lat. 44° 30′ N., Lon. 62° 15′ W	Foundered....	Sprung a leak	do ...	Total, $4,600
19	Salter's Wharf, St. John Harbor	Boiler burst...	Unknown	1	Partial, $2,200
21	27 miles E. of Arichat, N.S....	Foundered....	do	None ..	Total, $250
1,258	In Winter Quarters in Point St. Dennis.....	Burnt	do	do ..	do $20,000
55	Point Micheau, C. B.....	Stranded	Stress of weather....	do ...	Trifling damage
122	Kamouraska, River St. Lawrence	do	do	do ..	Partial, $3,000
60	....	do	do	do .	do $900
171	LobsterIsland,nearPubnico,N.S	do	Snow storm.....	do ..	do $1,500
116	S.W of St. Thomas, W. Indies	Stranded	Stress of weather ...	do ..	Total, $2,300
115	Sable Island	do	do do ...	do ..	do $2,300
385	Richibucto Harbor	do	Hurricane	do ..	Partial.
119	Point Pleasant, N.S	do	do	do ..	do $300
41	.....	Abandoned ..	.....	do ..	Total, $1,000
131	North Sydney Beach. C.B	Stranded	Stress of weather ...	do ..	Partial.
51	Amherst Harbor, M.I	do	do do ...	do ..	do $1,000
966	Not known.....	Abandoned ..	do do ...	do ..	Total, $20,000
30	Entrance Amherst Harbor, M.I	Stranded	do do ...	do ...	do $800
41	Magdalen Islands.....	.....	do do ...	10	do $2,000
252	Lingan, N.S.....	Foundered....	do do ..	None ..	Partial, $6,000
663	Manicouagan Shoals, Gulf St. Lawrence	Stranded	do do ...	17	Total, $6,000
34	West side of Port Hood Harbor, N.S.	do	Inferior chains.....	None...	do $200
462	South Beach, outside Richibucto Harbor, N.B	do	Hurricane	do ..	Partial, $8,100
229	Off Bermuda.....	Waterlogged & abandoned..	Stress of weather ...	do ..	Total, $7,000
150	250 miles from Harbor Island..	Sprung leak ..	do ...	do ..	do $3,000
84	Lat. 42° 17′ N., Lon. 64° 0′ W..	Lost at sea ...	Not known	6	do $7,000
330	Factory Wharf, N. Sydney, C.B.	Stove in	Stress of weather ...	6	Partial, $2,600
242	North Sydney Beach, C.B.....	Drove from anchors	do ...	6	Total, $6,000
50	Amherst Harbor, M.I.....	Stranded	do ...	6	Partial, $1,000
68	Near West Quoddy, N.B	do	do ...	1	Total, $1,000
416	7 miles below Traverse Lightship, River St. Lawrence....	Collision	Run into.	None...	Partial, $3,200
182	Near Lisbon	do	do	.....	Total, $3,000
.....	Green Island, N.S., S.W. Point	Stranded	Fog	.....	do
26	Spencer's Island, N.B.....	do	do	None...	do $350
293	Pictou, N.S.	do	Stress of weather ...	.....	Partial, towed off.
.....	Canso, C.B.	do	do	None...	Partial.
22[illegible]	Lat. 33° 44′ N., Lon. 61° 26′ W.	Foundered....	Sprung leak	.....	Total, $8,000
626	St. Ann's Shoals, River St. Lawrence	Stranded	Stress of weather....	None...	Partial, not known
2,415	N.-E. Bar, Sable Island	do	Fog	.....	Partial, $2,000
149	Lat. 43° 10′ W., Lon. 61° 58′ W.	Abandoned...	Stress of weather....	.....	Total, $4,500
252	South Beach, inside Richibucto Bar, N.B.....	Stranded	Hurricane.....	None...	Partial

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STATEMENT of Wrecks and Casualties to Sea-going Vessels,

Date of Casualty.	Name of Vessel.	Age.	Port of Registry.	Port Sailed from and Port Bound to.	Rig.
1873.					
Sept. 11..	William Stewart ...	27	Falmouth.....	Quebec to Glasgow.....	Ship .....
20...	West Point	16	U.S.A.....	U. S. to Strait of Canso	Schooner ...
Jan. 14..	Zimi.....	9	St. John, N.B	New Orleans to Liverpool	Ship .....
Nov. 19..	*Zephyr.....	.....	St. Pierre, Newfoundland.....	Not known.....	Schooner ....
Aug. 24..	Zephyr.....	3	Sydney, C.B	Halifax to Ingonish, N.S.	do ...

* This vessel drifted ashore at Sable Island, on the 19th Nov., 1873, dismasted. on board in an advanced state of decomposition. The vessel

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from 1st January, 1873, to 31st December, 1873.—*Concluded.*

Register Tonnage.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	Lives Lost.	Amount of Loss.
538	Fox River, G. of St. Lawrence.	Stranded	Stress of weather	None ..	Total, $8,000
52	Pleasant Bay, Magdalen Islands	do	do ...	do ..	do 6,300
962	New Orleans	Partially burnt	Unknown	do ..	Partial vessel and cargo, $30,000
30	Not known.....	Stranded	do	4	
48	North Sydney Beach, C.B	do	Hurricane	None...	Partial $1 000

She appears to have been a fishing schooner. The bodies of four men were found is supposed to have been disabled about the end of July last.

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APPENDIX

STATEMENT of Wrecks and Casualties to Inland Vessels, from 1st January, Department of

Date of Casualty.	Name of Ship.	Age.	Port of Registry.	Port Sailed from and Port Bound to.	Rig.
1873.					
April 25..	Alice	9	Detroit	Chicago to Detroit	Barque.....
July 3..	Algoma	10	Montreal.....	Collingwood to Thunder Bay ...	Steamer....
Oct. 14..	Australia..... ...	23	Toronto.....	Toronto to Buffalo.....	Schooner ..
Nov. 27..	Attonabee.....	.....	Quebec.....	Manitoulin Island.....	do ..
5..	Bavarian	New .	Montreal.....	Hamilton to Montreal	Steamer....
Oct. 31..	Belle Chambers.....	12	....	Frenchman's Bay to————	Schooner ...
June 6..	Cascade	20	American	Green Bay to Cleveland..	do ..
3..	City of Chatham ...	1½	Chatham.....	Montreal to Hamilton.....	Steamer....
Sept 13..	Cecilia	.....	.....	.....	Barque.....
June —..	Dundee	13	London, England..	....	do ....
11..	Empire	10	American	Cleveland to Ogdensburg.....	Steamer....
Oct. 29..	Elizabeth.....	.....	Canadian	Penetanguishene.....	Schooner ...
Sep. 13..	G. D. Norris.....	.....	Chicago.	Chicago to Buffalo.....	do ..
July 31..	Herald	3	Montreal	Becador	Steam Barge
Nov. 28..	Hector	New .	Canadian	Port Colbourne	Steamer....
May 12..	L. Renaud	7	Montreal..... ...	Cornwall to Montreal	do ....
6..	M. J. Mills	7	do	.....	Tug.....
Aug. 23..	M. Egan	12	Chicago, U.S.....	Collingwood to Margarette....	Schooner ...
Oct. 1..	Mary R. Robinson ..	1	Chatham, Ont.....	Little Current, Ont., Chicago, U.S	Steamer....
21..	Picton	6	Picton	Oswego to Belleville...	Schooner ...
Mar. 18..	Quail	5	Pictou.....	In winter quarters, Chatham, Ontario.....	Steamer....
May. —..	Swallow.....	.....	.....	Lake Michigan to Buffalo.....	Schooner ...
Aug. 14..	Shickluna	.....	.....	.....	Propeller ...
7..	Sweet Home.....	20	.....	.....	Schooner ...
19..	St. George	8	Quebec	Wharf at Quebec	Barge .....
Oct. 19..	St. Lawrence.....	25	Montreal.....	Chicago to Hamilton	Steamer....
Dec. —..	T. Kenan.....	14	Amherstburg.....	Cleveland to Amherstburg	Scow.....
Aug. 7..	Vanderbilt	2	Chatham.....	Saugeen to Chatham....	Barge.....
April ..	Wanderer	.....	.....	Cleveland to Toronto.....	Schooner ...

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No. 31.

1873, to 31st December, 1873, as compiled from Returns received by the Marine and Fisheries.

Register Tonnage.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	Lives lost.	Remarks.
305	Point Lizard	Stranded	Driven on shore by ice	None	Partial, $4,300.
624	8 miles South of Grand Portage, Lake Superior	Breaking of piston	Accidental	do	do $1,000.
105	Niagara River	Struck rock		do	do $4,000.
	Mississaga Passage	Stranded	Heavy sea	do	
330	15 miles off Whitby Light, Lake Ontario	Burnt	Fire resulting from improper stowage of inflammable freight	20	Total, $50,000
	1 mile East of Presqu' Isle Lt. House, Lake Ontario	Foundered	Stress of weather	None	
600	Middle Ground St. Bearing, N.E	Stranded		do	Partial, $2,000.
375	Hamilton	Burnt		do	
	Point au Pelle	Run into and sunk	Collision		
420	Morgan's Point, Lake Erie				
800	Red Horse Rock Lighthouse, Lake Ontario	Stranded	Fault of Pilot		do $3,000.
	Christian Island, Lake Ontario	do	Stress of weather	None	Total.
	East Sister Reef				
84	Fort Galiot Lighthouse	Sunk	Collision	1	
43	S.W. Point Sugar Loaf Reef	Stranded	Snow storm	None	Partial.
336	Heron Island, Lachine Rapids	do	Incapacity of Pilot	do	Total, $25,000.
5	Sand Beach Lighthouse	Sunk		do	do
261	½ mile from Isle of Cories Light	Stranded	Parted chains	do	do $23,000.
223	Little Current	do	Wind and current	do	Partial, $5,500.
150	½ mile east Range Light	do	Stress of weather	do	Total, $6,000.
25	Bay of Quinte	Burnt	Believed to be by an incendiary	do	Total, $7,000.
	Point au Pelle Passage	Collision		do	Partial.
	Weaver's Point	Sunk	Run on rock		
180		Collision			
125	Quebec	Burnt	Fire		Total, $2,000
290	Edwardsburg Canal, one mile west of Lock No. 26	Fire	Caught near the boiler	None	Total, $20,000
	Musquito Cove, Lake Erie	Foundered in 5 feet water.	Frozen pumps	do	Partial.
90	In channel entering Pike Bay.	Stranded	Storm	do	Partial, $650
100	Kelly's Island	Stranded			

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APPENDIX No. 32.

STATEMENT of Expenditure on Account of Investigations relating to Wrecks and Casualties for the Fiscal Year ended 30th June, 1873.

Name.	——	Amount.	Total.
		$ cts.	$ cts.
James Barber	Reporting wrecks and casualties	44 00	
George Collins	do do	19 00	
A. Sutherland	do do	8 00	
J. J. Fox	do do	14 00	
John Bent	do do	2 00	
T. E. Moberly	do do	38 00	
J. Rose	do do	8 00	
E. D. Tremain	do do	10 00	
J. Farmer	do do	4 00	
A. Harvey	Expenses in connection with wrecks at Anticosti	25 00	
J. Mitchell	Services in connection with investigations relating to wrecks and casualities	348 50	
Hon. William Miller	Professional services in connection with enquiry into the loss of the "Sarah McLeod"	50 00	
E. D. David	Expenses in connection with enquiry into the loss of the "Louis Renaud"	329 89	
William Smith	Expenses of self and stenographic writer, holding Court of Enquiry at Quebec into the loss of the steamship "Northern"	62 00	
D. M. Browne	Expenses in connection with enquiry into the loss of the "Royal Sovereign"	89 00	
E. McDonald	Expenses in connection with enquiry into the loss of the "B. L. George"	17 50	
			1,068 89
Receiver-General	Refund of unexpended balance		431 11
			$1,500 00

WM. SMITH,
Deputy of Minister of Marine, &c.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, September, 1873.

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APPENDIX No. 33.

STATEMENT of Expenditure on account of Rewards for Saving Life, purchase of Life Boats, Life Preservers, &c., for the Fiscal Year ended 30th June, 1873.

Name.		Amount.	Total.
		$ cts.	$ cts.
Bank of Montreal	For purchase of Draft to reward four seamen for assistance rendered crew of the "Expert"	80 00	
do	To reward two seamen for assistance rendered to the crew of the "Anticello"	40 00	
do	Premium for do	0 30	
do	For purchase of Draft to reward three seamen for assistance rendered to the crew of the "Annie McCann"	36 00	
do	Premium on do do	0 25	
do	For purchase of Draft to reward certain seamen for assistance rendered to the crews of the "Mary Givan" and "Seriole"	85 00	
do	Premium on do do	0 28	
			241 83
Board of Trade	For rewards to certain seamen for assistance rendered to the crew of the "Ida Catlor"	60 00	
do	For rewards to certain seamen for assistance rendered to the crew of the "Valiant"	80 00	
do	For rewards to certain seamen for assistance rendered to the crew of the "Uber"	30 00	
do	For rewards to certain seamen for assistance rendered to the crew of the "Linda"	60 00	
			230 00
R. Stephenson	To reward two men for aid rendered Thomas Cartier in saving life on Lake St. Clair		25 00
H. Herbert	For rewards to sundry persons for saving life on the lower St. Lawrence during the fall of 1871		105 00
W. Cline	To reimburse him for assisting wrecked seamen from Wolf Island to Eastport		40 00
J. U. Gregory	Purchase of Life Buoys		300 00
A. M. Ingersoll	Life Boat		266 72
J. Leslie	Invoice of Gold Watches, Binocular Glasses, &c., &c., presented as testimonials for saving life		766 55
			1,975 10
Receiver-General	Refund of unexpended balance		246 36
			$2,221 55

WM. SMITH,
Deputy of Minister of Marine, &c.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, September, 1873.

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APPENDIX No. 34.

REPORT OF THE HARBOUR MASTER AT HALIFAX, FOR THE CALENDAR YEAR ENDED 31st DECEMBER, 1873.

HARBOUR MASTER'S OFFICE,
HALIFAX, N.S., 14th January, 1874.

SIR,—I have the honor to submit my first Annual Report, being that for the year ended 31st December, 1873.

On assuming office on the 6th February, 1873, I found the necessity of such an appointment to be so great that it is a matter of surprise how it should have been so long neglected in a port so old and large as Halifax. My attention was immediately directed to the nefarious practice which had existed for many years of vessels discharging ballast into the harbour, thereby not only lessening the depth of water, but destroying the holding ground to such an extent as to seriously affect the splendid anchorage for which Halifax Harbour was so justly celebrated. Feeling the great importance of putting a stop to these encroachments, I found it necessary to secure the services of an assistant and boat, even at my own expense, trusting the emoluments of the office would enable me to pay him and leave myself a remunerative salary ; and I have the honor to say, I have succeeded in effectually checking the nefarious practice before referred to. I regret, however, to state that the income of my office does not warrant me in retaining the assistance above referred to at my own expense, and I beg therefore to submit the urgent necessity that exists for my being provided with a suitable boat and two men by the Government, to enable me to protect the interests of the harbour and carry out the rules and regulations governing my office.

BALLAST GROUNDS.

The want of suitable ballast grounds is a most serious inconvenience, making me dependent on different owners of water lots for places to discharge ballast. I would suggest that the Government provide suitable lots for the purpose,—one in shallow water for ballast boats and lighters, and the other in deep water for ships purposes.

HARBOUR REGULATIONS.

While approving generally of the rules and regulations as at present laid down, I would suggest the amendment of Rule No. 8, by making the rigging in of jib and spanker booms compulsory when ordered by the Harbour Master, and a penalty attached for non-compliance.

COLLECTION OF FEES.

The present system of the Harbour Master being obliged to personally collect his fees from the shipping, uses up a large portion of his valuable time, which should be devoted to other important duties in connection with the office ; therefore, I would respectfully suggest that the fees be collected at the Custom House, or that it should be compulsory for all vessels coming under the Act entering at the Custom House, to produce a receipt from the Harbour Master showing that his fees have been paid.

EMOLUMENTS OF OFFICE.

From the account of receipts and disbursements hereto annexed, it will be seen that the net income of the office for the year 1873 reached only the sum of $847.85. Taking

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into consideration the onerous duties and responsibilities of the office, and from the fact that the Act contemplates a remuneration of $1,600.00 per annum, I respectfully beg you will give the subject your favorable consideration, and devise some plan to make the office more remunerative.

In concluding this, my first report, I beg to express the sense of obligation I am under to Capt. P. A. Scott, R. N. ; to G. P. Mitchell, Esq., Chairman of Chamber of Commerce ; and to Alex. W. Scott, Esq., Secretary Royal Halifax Yacht Club, for their valuable advice and assistance given me on my assuming the duties of the office, and the great interest they have also manifested in anything that concerns the welfare of the port

I have the honor to be, Sir,
Your most obedient servant,
(Signed), ELIJAH WOOD,
Harbour Master.

To the Hon. A. J. SMITH,
Minister of Marine and Fisheries,
Ottawa.

Harbour Master's Receipts and Disbursements from February 6th to December 31st, 1873.

Vessels entered under the Act 35, Cap. 41.	No.	Registered Tons.	Fees Collected.
			$ cts.
Schooners	356	29,445	274 00
Brigantines	275	40,415	224 00
Brigs	20	5,276	41 00
Barques	50	25,771	175 00
Ships	3	3,953	20 00
Steamships	216	211,366	271 00

Total Receipts	$1,005 00
To paid assistant and incidental expenses	157 15
Nett	$847 85

(Signed), ELIJAH WOOD.

Sworn to before me, at Halifax, this 14th day of January, 1874.

(Signed), WM. ACKHURST, J.P.

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APPENDIX No. 35.

REPORT OF CHAIRMAN OF BOARD OF STEAMBOAT INSPECTION, FOR THE YEAR ENDED 30TH DECEMBER, 1873.

BOARD OF STEAMBOAT INSPECTION,
CHAIRMAN'S OFFICE,
TORONTO, 10th January, 1874.

To the Honorable A. J. SMITH,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I beg leave to forward herewith my Annual Report for the year ended 31st December, 1873.

A meeting of the Board of Steamboat Inspection was called on the 14th of March, to consider the subject of the strength of square boilers, and to adopt a uniform rule for the maximum pressure allowable upon the pins and braces of all boilers. The rule adopted by the Board, was that 6,000 pounds to the square inch be the limit or maximum pressure or strain allowable upon these parts of a boiler.

A rule fixing the tensile strength of riveted plates in steamboat boilers at 42,000 pounds to the square inch was also adopted by the Board.

The attention of the Board was called to the insufficiency of metal in gas fitters' globe valves, used in steamboat boilers, and the objectionable practice condemned of screwing such valves into the plates of a boiler without the use of a flange in connection therewith. The practice of using drift pins to bring the holes together, in the plates of a boiler, instead of properly reaming them out, was also condemned.

A resolution was passed at this meeting, recommending the Department to provide each Inspector with one or two scientific journals, for the purpose of informing them as to the improvements and progress going on in matters relating to steamboats and their machinery.

The foregoing Rules and Regulations were forwarded to the Department.

The Annual Meeting of the Board, at which all the Inspectors are required to attend, was held on the 1st September, at Trinity House, Montreal. All the members were present.

Mr. John Burgess, of Montreal, was examined by the Board as to his qualifications for the office of Inspector of Steamboats, for the Montreal Division, in room of the late Mr. Fessenden, and obtained a first-class certificate.

The following Rules and Regulations were revised and passed by the Board, in view of having them attached to, and printed in connection with the Steamboat Inspection Act, should the Department see fit to recommend their approval to His Excellency the Governor in Council.

Rules and Regulations passed at the Meeting of the Board of Steamboat Inspection, held at the City of Montreal, on the 1st and 2nd September, 1873 :—

Rule 1.—Inspectors shall not, unless authorized by the Department, inspect a steamer belonging to another District, without communicating with the Inspector of such District.

Rule 2.—Inspectors are not required to prosecute for infringement of the Steamboat Inspection Act, although having the right to do so, under the 38th section of that Act. In cases of violation of the Act, it shall be the duty of the Inspector to notify the Collector of Customs, as required by section 37 ; and in the event of the Collector not taking action as prescribed by that section, the Inspector shall report such omission to his Department.

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Rule 3.—Certificates of Engineers, while in charge of a steamer, shall be framed and hung up in the engine room, under penalty of having them revoked.

Rule 4.—Steamboats not exceeding 200 tons, requiring only one pump, as prescribed in sub-section 2, section 21, such pump shall be placed aft, unless the space forward is at all times kept free, to admit of ready access to the pump and hose, in which case the pump may be placed forward.

Rule 5.—In determining the standard of strength of flues of boilers, subjected to external pressure, the Inspector shall, in conformity with the interpretation of section 7 of the Steamboat Inspection Act, assume one third the pressure allowable as a working pressure for a new boiler, as prescribed in sub-section 2 of the section referred to, and no flue, over sixteen inches diameter, shall be made of less than quarter-inch plate. The spaces between the stays in the steam chimneys of boilers, measured on the inside of the flue, shall not exceed twice that of the stays on the flat surface of the boiler.

Rule 6.—That in order to satisfy himself by examination and experimental trials as to the strength of a boiler, as required by section 7 of the Steamboat Inspection Act, the Inspector may, if he thinks it necessary, order holes to be cut in the boiler, and may also demand that drawings be furnished him of such parts of the interior of the boiler as will enable him to judge correctly of their strength.

Rule 7.—The standard of strength of the shell of a boiler, as prescribed by sub-section 2, section 7 of the Steamboat Inspection Act, limits the pressure to 8,400 pounds to the square inch; but as the braces, stays and pins on the flat surfaces are subject to greater loss from waste, and to more unequal and irregular strain than the shell, 6,000 pounds to the square inch, shall be the limit allowable upon these parts. This rule shall apply as far as practicable to all boilers of steamboats now in use.

Rule 8.—In compliance with sub-section 5, section 7, which refers to the safety of pipes in connection with boiler cocks and valves attached to steamboat boilers, such cocks and valves shall be sufficiently strong and reliable for the purpose intended, and in no case shall they be attached to the boiler by screwing into the plate, unless flanges be provided in addition to such attachment.

Rule 9.—In no case shall a certificate be granted under the provisions of the Steamboat Inspection Act, when the plates of the boiler have been strained or weakened by the use of drift pins in bringing the holes of the plates together.

Rule 10.—The declaration of the manufacturer of a boiler, in writing, as to the stamps or marks on the plates of a boiler as referred to in sub-section 6, section 7, in cases where such stamps or marks cannot be found, and also as to the quality of the plates and materials in the boiler, shall be sufficient authority under the general provisions of the 7th section alluded to, for granting the certificate, provided the Inspector is satisfied that such declaration is in so far as he can judge correct, and that in other respects the requirements of the Law have been complied with.

The attention of the Department was directed by the Board to the inadequate supply of boats on passenger steamers, recommending that as many boats as room can be found for on the steamer be carried, and of the largest capacity that can properly be handled.

Examinations of applicants for certificates as Engineers, and the renewal of certificates who had previously qualified, were made at the following places during the year:

Montreal	September	3rd, 4th, 5th, & 6th.
Sorel	„	8th, 9th, & 10th.
Quebec	„	11th, 12th, 13th, & 15th.
Pictou, N. S.	„	20th & 22nd.
Halifax	„	24th, 25th, & 26th.
St. John, N.B.	„	29th, 30th, Oct. 1st & 2nd.
Fredericton	October	4th & 6th.
Kingston, Ontario	November	24th to December 6th.
Ottawa, Ontario	December	9th, 10th, & 11th.
Port Hope	„	2nd, 3rd, & 4th.
Windsor	„	2nd, 3rd, 4th, & 5th.

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St. Catharine's ..... „ 8th, 9th, 10th, 11th, 12th & 13th.
Toronto Board Meeting „ 16th, 17th, 18th, 19th, & 20th.

During the year, 824 certificates were issued, namely—

First-class Engineers	43
Second-class „	131
Third class „	144
First-class Assistant Engineers	155
Second-class „ „	181
Third-class „ „	170
Total.....	824

The sum of $3,105 was received by me on this account, which has been paid over to the credit of the Steamboat Inspection Fund.

The following statement exhibits the number of certificates issued during the past four years :—

Engineers' Certificates for the year 1870	385
„ „ „ 1871	625
„ „ „ 1872	741
„ „ „ 1873	824

A Statement, Form No. 10, of Examinations and Renewals of Certificates of Engineers, is appended, also a statement of the number of Steamboats inspected in the Dominion during the year, in the several Divisions. Their tonnage, and the amount of fees paid on account of their inspection, are as follows :—

Name of Division.	Gross Tons.	Registered Tons.	Revenue.
			$ cts.
West Ontario, Huron and Superior	29,943	21,860	4,019 09
East Ontario	14,295	8,415	1,955 10
Montreal	10,332	3,957	1,502 20
Three Rivers	8,764	4,610	1,133 80
Quebec	14,442	8,241	1,920 22
Nova Scotia and New Brunswick	14,522	9,404	1,976 90
Engineer's fees			2,105 00
Dominion of Canada	92,298	56,487	14,612 31

These Steamers are classified :

Name of Division.	No. Steamers.	Paddle.	Screw.	Passenger.	Freight.	Tugs.
West Ontario, Huron and Superior	177	43	134	75	36	66
East Ontario	83	44	39	29	19	35
Montreal	83	47	36	21	14	48
Three Rivers	48	42	6	20	1	27
Quebec	75	49	26	33	.....	42
Nova Scotia and New Brunswick	88	47	41	45	2	41
Dominion of Canada	554	272	282	223	72	259

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Of the 554 steamers in the Dominion at the close of the year 1873, 85 were added during that year.

Name of Division.	No. Steamers.	Paddle.	Screw.	Passenger.	Freight.	Tugs.
West Ontario, Huron and Superior	40	4	36	10	15	15
East Ontario	8	.....	8	4	3	1
Montreal	6	3	3	2	2	2
Three Rivers	10	8	2	4	.....	6
Quebec	10	5	5	3	.....	7
Nova Scotia and New Brunswick	11	6	5	6	.....	5
Dominion of Canada	85	26	59	29	20	36

During the past year 21 steamers were laid up, broken up, lost or taken out of service.

Name of Division.	Gross Tons.	Registered Tons.	No. Steamers.	Paddle.	Screw.	Passenger.	Freight.	Tugs.
West Ontario, Huron and Superior	919	621	5	1	4	1	3	1
East Ontario	278	132	2	1	1	1	1	.....
Montreal	802	240	3	2	1	2	.....	1
Three Rivers	1,213	1,004	3	2	1	1	1	1
Quebec	1,132	521	6	6	.....	1	.....	5
Nova Scotia and New Brunswick	146	56	2	1	1	.....	2	.....
Dominion of Canada	4,490	2,574	21	13	8	6	7	8

Statements in full, Forms 12 and 13, with reference to steamers added to the Dominion' and broken up or lost, are appended.

I regret that I have to report the loss of life by steamboats greater during the past year than during any previous year since 1857, when the law for their inspection went into operation. Chief and most important in this respect was the loss by fire of the steamer *Bavarian*, which occurred on Lake Ontario on the evening of the 5th November, by which twenty lives were lost of the forty all told on board. Six were passengers, three of whom were ladies. Two of the passengers only were saved, a man and a boy.

The immediate cause of this accident arose from the improper stowage of high wines near the engine and boilers on the main deck. The loss of life was chiefly due to the inhuman conduct of the pilot, Napoleon Defour, who, with eight others, made off from the steamer in a life boat capable of carrying at least 25 persons.

The conduct of the first mate, Henderson, was also blameable in not going round the steamer after his boat was bailed out: had he done so, it is probable that the ladies who were last seen standing forward on the deck of the burning vessel would have been rescued.

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The conduct of officers and crew, in this accident, shows the necessity for a Marine Law for our inland waters, under which qualified officers may obtain certificates, and crews be properly trained and disciplined, and under which neglect of duty or disobedience of orders may not go unpunished as in this instance.

I would also recommend that the Steamboat Inspection Act be amended with respect to the number of boats carried on passenger steamers, their dimensions and the means of lowering them speedily, for which no provision in the present law exists.

The number of boats required under the provisions of the present law, it is generally admitted, are insufficient for passengers and crew, and as boats enough cannot well be carried on a steamer, it appears to me that life-rafts might be provided in addition to the boats, and a rule adopted limiting the number of passengers to the number and capacity of the boats and life rafts carried.

I am aware that it will be difficult to enforce such a rule, but the responsibility of over-crowding steamers with passengers, without making any provision for their safety, or giving them a chance even for life, should rest somewhere, by naming in the certificate of inspection the number of passengers the steamer may be allowed to carry, which shall be in proportion to the number of boats and rafts on board, the responsibility of exceeding such number would rest in the proper quarter.

Legislation is also required to regulate the stowage of inflammable substances on steamboats.

The following statements have reference to casualties which have occurred in the several divisions of the Dominion.

WEST ONTARIO, HURON AND SUPERIOR DISTRICT.

Propeller *City of Chatham* burned at the wharf at Hamilton when taking in cargo Fire occurred about 11 o'clock p.m., on the 3rd June, originating in the fire-hold Vessel total loss; no lives lost.

Screw freight-boat *J. R. Crow* driven from her moorings off Leamington, Lake Erie, October 20th. Vessel total loss; no lives lost.

Screw steamer *Herald* came into collision with the American propeller *Dunkirk* when off Buador, Lake Huron, about 2 a.m. on the night of the 24th July, on her way to Detroit, weather clear. The *Herald* was struck on her port quarter, and sunk to the water's edge in three quarters of an hour. The *Dunkirk* was signalled to stop, which she did, and took on board the crew of the *Herald*, except the first-mate, David Thorburn, who could not be found. Twenty minutes before the collision, Townsley, the engineer, was on deck, and states that on passing the wheel-house he spoke to the wheelsman, but got no reply, and is of opinion that there was no watch on deck at the time of the collision, that the vessel was short-handed, and that the men had been over-worked during the day. The vessel was towed into Port Huron and repaired.

Tug *Hector* went ashore in a snow-storm off Port Colbourn, 28th November. No material damage done.

Small freight steamer *Thos. Webb* sunk in Sydenham River, off Lake St. Clair, 19th April. Steamer raised and repaired.

Propeller *Shickluna*, on the 13th August, when opposite Weaver's Point, River St. Lawrence, on her way in charge of a river pilot, took a sheer in the current and grounded on the boulders. No lives lost.

EAST ONTARIO DIVISION.

Small passenger steamer *Quail* was burned at her winter quarters, North Port, on the 18th March at 1 a.m. The fire was believed to be incendiary.

Steam barge *Kitty Fricl* was partially burned near Peterboro' on the 17th June. The fire was caused by sparks from the chimney falling amongst the railway ties with which she was laden. She has since been rebuilt.

Tug steamer *Bay of Quinte* broke her port shaft on the 6th June. It was repaired

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The piston follower and rings of the propeller *Calabria* were broken on the 25th September. Got a new one at Kingston.

Propeller *St. Lawrence* was burned in the Edwardsburg Canal on the 19th October. The crew escaped to the bank of the canal. She took fire in the hold near the boiler.

The above casualties were unattended with loss of life or personal injury.

There have been no cases of drunkenness on the part of engineers reported in this division during the current year.

No accidents reported in the Montreal or Three Rivers Divisions.

QUEBEC DIVISION.

Steamship *Beaver*, on her first trip to Chaleur Bay during the night, running in the ice, stove a hole in her bow, and but for her collision bulkhead would have gone down; she was run ashore and made tight with plank.

Gulf Port steamer *Clyde*, in going up to Chicoutimi, broke one of her paddle shafts.

Passenger steamer *Saguenay*, when opposite Kamouraska, broke one of her paddle shafts.

Steamship *Northern*, on her way to Pictou, Nova Scotia, ran ashore at St. Lawrence Point, and filled in about twenty minutes; no lives lost.

Steamship *Miramichi* ran ashore in a fog on the west end of Greer Island, at about 11 p. m., on the 22nd August; she was got off and beached inside of Greer Island; weather quite calm; no lives lost.

Tug *New Dominion*, on her way up, ran ashore in a snow-storm at St. Croix Bay, and will have to winter there; no lives lost.

Steamship *Northern*, 12th June, stranded at St. Lawrence Point, about forty feet from the light. Vessel in charge of a licensed pilot; no lives lost.

NEW BRUNSWICK AND NOVA SCOTIA DIVISION.

Stern-wheel passenger steamer *Highlander*, on the 18th June, broke her outriggers on her passage to Woodstock, and had to be run ashore; the passengers were landed in safety.

Paddle passenger steamer *Fawn*, on her passage from St. John, New Brunswick, to Fredericton, on the night of the 9th October, when near Fredericton, struck a snag; the steamer was found to be filling, and was run aground on a shoal. The passengers and crew were safely landed.

Tug steamer *St. George*, on the 18th October, while lying at a wharf in Carlton, New Brunswick, exploded her boiler. The engineer lost his life by the explosion. The boiler was proved, at the coroner's inquest, to be strong, and fitted in accordance with the law, and competent to carry a steam pressure of ninety pounds to the square inch. The boiler has been tested for and allowed to carry a pressure of eighty pounds per square inch, working pressure. The coroner's jury's verdict stated "that they did not know the cause of the explosion."

At the close of this Report, I am informed by an article in the *London Nautical Magazine*, referring to the commission lately appointed by the United States government for testing the strength of steamboat boilers by actual trial on real boilers, of the importance of Rule 7, referred to in this Report, limiting the strain on the stays and braces of a boiler to 6,000 pounds to the square inch of sectional area, or 2,400 pounds less than that allowable on the circular shell of a boiler.

In the article referred to, the writer assumes that "it is a fair conclusion, from these experiments, that no circular boiler was ever burst, or ever can be burst, by a gradually increasing pressure without 'complaining,' or giving notice of over-pressure to the engineer or those in charge. *It is not the circular shells that are dangerous, but the stayed flat surfaces*, and the high-pressure circular boilers, now coming into general use, are much safer than the low-pressure boilers which preceded them."

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The introduction of low-pressure boilers, depending entirely on their stayed flat surfaces, to carry high pressure steam, led to the adoption of the Rule referred to.

My opinion on the safety of these square boilers, or low-pressure boilers as they are called in the old country, met with strong opposition last year in this section. I was, however, sustained in them by the Board, and it is satisfactory to know that they have been confirmed by the actual test of trial.

I have the honor to be, Sir,
Your most obedient servant,
SAMUEL RISLEY,
Chairman of the Board of Steamboat Inspection.

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I.—Steam Vessels Inspected, for the Year ending 31st December, 1873.

ONTARIO, HURON, AND SUPERIOR DIVISION.

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						$ cts	$		$ cts	
International	Sarnia	Verner	Feb. 19	1,052	742	105 20	8	July 10	113 20	Grand Trunk car ferry, Sarnia.
Chicora	Collingwood	Watson	April 22	415	372	41 50	8	April 22	49 50	Passenger steamer, Lake Superior.
Princess of Wales	Toronto	Smith	do 27	94	58	9 40	5	do 10	14 40	Island ferry, Toronto.
City of Chatham	Hamilton	Kittson	do 27	361	267	36 10	5	do 23	41 10	Freight propeller.
Enterprise	Port Dalhousie	Clark	do 27	564	494	56 41	8	do 15	64 41	Welland Railway, passenger, and freight propeller.
City of Montreal	Hamilton	Kittson	do 16	300	220	30 00	8	do 22	38 00	Passenger and freight propeller.
Wales	Collingwood	Watson	do 19	188	96	18 80	5	do 22	23 80	Georgian Bay, barge tug.
Fred. Hotchkiss	do	do	do 19	15	15	1 50	5	do 22	6 50	do tug.
Mary Ann	do	do	do 19	69	53	6 90	5	do 22	11 90	do do
Geo. Watson	do	do	do 19	28	28	2 80	5	do 22	7 80	do do
Transit	Hamilton	Kittson	do 25	82	53	8 20	5	May 2	13 20	Wellington Bay, pleasure steamer.
Argyle	do	do	do 25	121	82	12 10	5	do 2	17 10	Barge tug, St. Clair Flats.
Sovereign	St. Catharines	Clark	do 26	374	391	37 40	8	April 30	45 40	Passenger and freight propeller.
Scotia	do	do	do 26	371	300	37 10	8	do 23	45 10	do do
Sam Perry	Port Dalhousie	do	do 26	42	34	4 20	5	May 1	9 20	Harbour tug.
Young Lion	do	do	do 26	54	43	5 40	5	do 1	10 40	do
Alma Munro	do	do	do 26	364	289	36 40	8	do 8	44 40	Passenger and freight propeller.
Bouquet	Toronto	Smith	May 3	191	157	19 10	8	do 1	27 10	Island ferry, Toronto.
Georgian	do	do	do 2	448	345	44 80	8	do 2	52 80	Freight propeller.
Ontario	do	do	do 3	35	24	3 50	5	do 3	8 50	Harbour tug.
Kitty Hoyt	do	do	July 4	11	11	1 10	5	July 4	6 10	Dredge tug, Toronto Harbour.
Little Eva	do	do	Not inspected ; no returns from Collector							do do
Algoma	Collingwood	Watson	May 5	757	623	75 70	8	April 22	83 70	Lake Superior, passenger steamer.
Minnie Hall	do	do	do 6	47	47	4 70	5	May 6	9 70	Georgian Bay, tug.
N. P. Sprague	Port Rowan	Bennett	do 8	119	80	11 90	5	do 4	16 90	Lake Erie, timber tug.
Francis Smith	Collingwood	Watson	do 12	462	353	46 20	8	do 12	54 20	Lake Superior, passenger steamer.
Waubuno	do	do	do 16	146	107	14 60	8	do 16	22 60	Georgian Bay. do
Manitoba	Sarnia	Verner	do 29	338	236	33 80	8	do 7	41 80	Lake Superior do
Alex. Jones	do	do	do 31	22	22	2 20	5	March 28	7 20	Steam ferry, Sarnia.
Herald	do	do	June 2	76	46	7 60	5	May 14	12 60	Freight barge, Lake St. Clair.
Sea Gull	do	do	do 2	51	51	5 10	5	March 28	10 10	Steam ferry, Sarnia.
Great Western	Windsor	Benson	do 5	1,252	712	125 20	8	April 24	133 20	Great Western Railway car ferry, Windsor.

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I.—Steam Vessels Inspected, for the Year ending 31st December, 1873.—*Continued.*

ONTARIO, HURON, AND SUPERIOR DIVISION.—*Continued.*

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Total.	Remarks.
						$ cts.	$		$ cts.	
Whistle Wing	Cobourg	Perry	June 9	31	31	3 10	5	June 7	8 10	Passenger and freight steamer, Rice Lake.
Isaac Butts	do	do	do 9	132	67	13 20	8	July 30	21 20	Passenger and freight steamer, Rice Lake.
Forest City	do	do	do 9	104	46	10 40	8	do 30	18 40	Passenger and freight steamer, Rice Lake.
Saginaw	Windsor	Benson	do 13	227	154	22 70	8	May 13	30 70	Great Western Railway car ferry, Sarnia.
Transfer	do	do	do 26	1,222	591	122 20	8	June 26	130 20	Canada Southern Railway, car ferry.
Lady Ida	Lindsay	Browne	N't insp'td	18	18	1 86	5	July 9	6 86	Freight barge, Lindsay.
E. L. Stoddart	Windsor	Benson	Oct. 15	12	12	1 20	5	Aug. 12	6 20	Freight and passenger steamer, St. Clair River.
Champion	do	do	do 15	51	34	5 10	5	Not paid.		Freight and passenger steamer, St. Clair River.
Clyde	Cobourg	Perry	June 9	62	44	6 20	5	Aug. 29	11 20	Freight and passenger steamer, Rice Lake.
M. A. Robertson	Collingwood	Geo. Watson	July 4	367	223	36 70	5	July 5	41 70	Georgian Bay, freight propeller.
Jerome	do	do	do 5	43	36	4 30	5	May 29	9 30	Collingwood tug.
Albert Wright	Port Hope	E. T. Burton	do 7	29	29	2 90	5	July 16	7 90	Harbour tug.
Anglo Saxon	Lindsay	D. Browne	do 8	47	38	4 70	5	do 9	9 70	Passenger steamer, Lindsay and Port Perry.
Ogemah	do	do	do 8	102	75	10 25	8	do 7	18 25	Passenger steamer, Lindsay and the back lakes.
Novelty	do	do	do 8	67	57	6 70	5	do 7	11 70	Passenger steamer, Lindsay and Bobcaygeon.
Ranger	do	do	do 8	53	40	5 30	5	do 10	10 36	Timber tug, Lindsay.
Champion	do	do	do 8	82	73	8 20	5	do 10	13 20	Passenger and freight, Lindsay.
Mary Ellen	do	do	do 9	31	31	3 10	5	do 10	8 10	Timber tug, Lindsay.
Ontario	do	do	do 9	49	49	4 90	5	Sept. 18	90	Passenger and freight, Lindsay.
Commodore	do	do	do 9	109	95	10 90	8	do. 18	18 90	do do
Vanderbilt	do	do	do 9	109	53	10 90	8	do 18	18 90	do do
Samson	do	do	do 10	68	19	6 80	5	do 18	11 80	Timber Tug, Lindsay.
O'Koura	Owen Sound	W. A. Stephens.	do 12	31	31	3 10	5	June 31	8 10	Screw passenger steamer, Georgian Bay.

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Persia	St. Catharines	J. Clark	do	15	347	247	34 70	8	July	14	42 70	Passenger and freight propeller.
Jessie Olliver	Thunder Bay	J. Wilson	do	18	129	129	12 90	8	do	23	20 90	Coasting steamer, Lake Superior.
Watchman	Fort William	do	do	21	13	13	1 30	5	do	25	6 30	do do
M. J. Mills	do	do	do	26	15	15	1 50	5	do	24	6 50	Exploring do
Silver Spray	Silver Islet	do	do	26	130	130	13 05	8	do	26	21 05	Passenger tug, Silver Islet.
Helen Grace	do	do	do	26	55	55	5 53	5	do	26	10 53	do do
Modoc	Collin's Inlet	Geo. Watson	June	14	26	26	2 60	5	June	16	7 60	Lumber tug, Collin's Inlet.
Victoria	Windsor	Wm. Benson	Oct.	15	88	69	8 80	5	April	29	13 80	Wood barge, St. Clair River.

WEST ONTARIO DIVISION.

Norseman	Port Hope	E. Burton	March	27	295	74	20 50	8	April	2	37 50	Side-wheel, passenger and freight, Port Hope, and Rochester, U.S.
Lothair	do	do	do	27	351	248	35 10	8	do	2	43 10	Screw, freight, lumber, Lake Ontario.
City of Dresden	Windsor	Wm. Benson	April	3	129	65	12 90	8	do	3	20 90	do passenger and freight, Dresden and Detroit.
P. E. McKerral	do	do	do	3	116	77	11 60	5	do	2	16 60	Screw, freight, Georgian Bay.
W. S. Ireland	do	Chas. Fraser	do	3	104	62	10 40	5	do	10	15 40	do Detroit River and Lake Huron.
City of Sandusky	do	Wm. Hemphill	do	4	605	463	60 59	8	do	23	68 59	Side-wheel, passengers, Port Stanley and Cleveland.
Alexander	do	Wm. Benson	do	5	129	77	12 90	5	do	5	17 90	Paddle, freight, Detroit and St. Clair Rivers.
Transit	do	do	do	8	759	327	75 90	8	do	12	83 90	Screw, passengers and car ferry, Detroit and Windsor.
Beaver	do	do	do	14	44	17	4 40	5	do	8	9 40	Screw tug, Dresden and Detroit.
Minnie Morton	Amherstburgh	Ed. Anderson	do	9	28	18	2 80	5	do	9	7 80	do Detroit River and Lake Erie.
Thomas	do	do	do	10	31	21	3 10	5	do	10	8 10	Screw, freight, Detroit River.
City of London	Windsor	Wm. Benson	do	14	334	307	33 40	8	do	24	41 40	Screw, passengers and freight, Montreal and Chicago.
Coral	do	do	do	14	93	58	9 30	5	do	14	14 30	Screw, freight and tug, Dresden and Detroit.
Bob Hackett	do	Ed. Anderson	do	14	72	52	7 20	5	March	28	12 20	Screw, passengers and freight, Windsor and Leamington.
Thomas Webb	do	Wm. Benson	do	15	83	57	8 30	5	April	14	13 30	Screw, freight and tug, Detroit and St. Clair Rivers.
Dominion	Chatham	Chas. Fraser	do	15	178	117	17 80	8	do	8	25 80	Side-wheel, passengers and freight, Chatham and Detroit.
W. T. Robb	Toronto	Chas. B. MacKay	do	17	188	114	18 80	5	do	17	23 80	Screw tug, Lake Ontario.
City of Toronto	do	do	do	18	403	255	40 30	8	do	21	48 30	Side-wheel, passengers, Toronto, Niagara and Lewiston, U.S.
Canada	Hamilton	W. H. Kitson	do	19	353	267	35 30	8	do	19	43 30	Screw, passengers and freight, Montreal and Chicago.
Indian	do	do	do	19	307	162	30 80	5	do	19	35 80	Screw, freight, Hamilton and Montreal.
Lake Ontario	do	W. Beatty	do	21	375	306	37 50	8	do	21	45 50	Screw, passengers and freight, Montreal and Chicago.

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I.—Steam Vessels Inspected, for the Year ending 31st December, 1873.—*Continued.*

WEST ONTARIO DIVISION.—*Continued.*

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Total.	Remarks.
						$ cts.	$		$ cts.	
Dromedary	Hamilton	W. H. Kitson	April 21	219	175	21 90	5	April 19	26 90	Screw, reight, Montreal and Chicago.
Osprey	do	do	do 24	375	199	37 50	8	do 18	45 50	Side wheel, passengers and freight, Hamilton and Quebec.
Lincoln	St. Catherine's	James Clark	do 23	378	335	37 80	8	do 23	45 80	Screw, freight, Montreal and Chicago.
America	do	do	do 23	331	302	33 00	8	do 23	41 00	do passengers and freight, St. Catharine's and Montreal.
Europe	do	do	do 23	370	307	37 00	8	do 23	45 00	Screw, passengers and freight, Montreal and Chicago.
Dominion (of St. Catherine's)	do	do	do 24	352	285	35 20	8	do 25	43 20	Screw, freight, Montreal and Chicago.
Ocean	do	do	do 24	358	287	35 80	8	do 23	43 80	do passengers and freight, Montreal and Chicago.
Mary A. Laughlin	Port Colborne	Wm. A. Routh	do 29	23	12	2 30	5	do 29	7 30	Screw tug, Port Colborne Harbor.
Sylvester Neelon	do	do	do 29	46	28	4 60	5	do 28	9 60	do do do
Wm. A. Routh	do	do	do 29	49	43	4 90	5	do 28	9 60	do do do
Clara M. Carter	do	do	do 29	29	23	2 90	5	do 28	7 90	do do do
C. F. Wadsworth	do	do	do 29	20	11	2 00	5	do 29	7 00	do do do
R. W. Standly	Chatham	J. G. Pennefather	May 1	340	275	34 00	5	May 1	39 00	Screw, freight, Chicago and Montreal
Minnie Battle	do	do do	do 1	25	14	2 50	5	do 1	7 50	do tug, dredge tender, Thames River.
John S. Noyes	do	do do	do 2	34	22	3 40	5	do 2	8 40	Screw tug, Thames River and Lake St. Clair.
Union	Windsor	Wm. Benson	do 8	1190	999	119 00	8	April 24	127 00	Side-wheel, passenger-ferry, Railway, Windsor and Detroit.
Ada E. Allen	do	do	do 9	107	68	10 70	5	May 3	15 70	Screw, freight, Detroit and St. Clair Rivers.
Beaver (of Amherstburgh)	Wallaceburg	Charles Fraser	do 10	52	39	5 20	5	de 10	10 20	Screw, freight and tug, Sydenham and St. Clair Rivers.
J. Holt	do	do	do 12	70	45	7 00	5	do 12	12 00	Screw, passengers and freight, Dresden and Sarnia.
Messenger	do	do	do 12	12	12	1 20	5	do 10	6 20	Screw tug, Sydenham River and St. Clair.
River King	do	do	do 12	53	48	5 30	5	do 9	10 30	Side-wheel, passengers and freight, Chatham and Wallaceburg.

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Hero	do	do	do	12	38	19	3	80	5	do	12	8	80	Screw tug, Sydenham and St. Clair Rivers.
Thames	do	do	do	12	40	30	4	00	5	do	12	9	00	Screw tug, Sydenham and St. Clair Rivers.
Manitoba (of Chatham)	do	do	do	13	81	69	8	10	5	do	12	13	10	Screw tug and barge, Sydenham and St. Clair Rivers.
Reindeer	do	do	do	13	35	23	3	50	5	do	12	8	50	Screw tug and barge, Sydenham and St. Clair Rivers.
J. C. Clark	do	J. W. Verner	do	14	175	88	17	50	8	March	18	25	50	Screw, passengers and freight, Wallaceburg and Sarnia.
E. Windsor	do	Chas. Fraser	do	15	68	37	6	80	5	May	15	11	80	Screw barge, Sydenham and St. Clair Rivers.
Isaac May	Waubushene	Chas. B. Mackay	do	21	592	490	59	20	5	do	27	64	20	Screw barge, Waubushene and Cleveland.
Maid of Midland	do	do do	do	21	12	12	1	20	5	June	3	6	20	Screw, passengers, Penetanguishene and Coldwater.
Bella Taylor	do	W. N. Rutledge	do	21	38	17	3	80	5	do	5	8	80	Screw tug, Georgian Bay.
Lilly Kerr	do	Chas. B. Mackay	do	22	58	26	5	80	5	May	28	10	80	do do
Lake Erie	St. Catharine's	W. H. Kitson	do	29	347	267	34	70	8	do	29	42	70	Screw, passengers and freight, Chicago and Quebec.
Calabria	Port Dalhousie	James Clark	do	30	391	288	39	10	8	do	20	47	10	Screw, freight, Hamilton and Montreal.
John S. Clark	Toronto	Chas. B. Mackay	June	3	33	13	3	30	5	June	3	8	30	Screw tug, Toronto Harbor.
Columbia	Hamilton	W. H. Kitson	do	4	360	244	36	00	8	do	4	44	00	do freight, Montreal and Chicago
Jennie Griffin	Thorold	W. A. Routh	do	5	27	27	2	70	5	do	5	7	70	do tug, Welland Canal.
Prussia	St. Catherine's	James Clark	do	13	374	301	37	40	8	do	13	45	40	do passengers and freight, Montreal and Chicago.
Agnes McMahon	Port Colborne	W. A. Routh	do	14	55	45	5	50	5	do	14	10	50	do tug, Port Colborne Harbor.
Maggie	do	do	do	14	31	21	3	10	5	do	14	8	10	do do do
Wm. Ross	Port Robinson	James Clark	do	16	11	11	1	10	5	do	2	6	10	Screw tug, Welland Canal.
Maggie R. Mitchell	Allanburgh	do	do	16	24	19	2	40	5	do	2	7	40	do do
Maggie R. King	do	do	do	16	25	21	2	50	5	do	2	7	50	do do
Minerva	Port Robinson	James McCoppen	do	16	27	19	2	70	5	May	12	7	70	do do
Ada Carter	Allanburgh	do do	do	16	25	15	2	50	5	do	12	7	50	do do
Argyle	do	J. B. Benson	do	20	355	286	35	50	8	June	20	43	50	Screw, passengers and freight, Montreal and Chicago.
Georgiana	Stromness	W. A. Macrae	do	21	64	40	6	50	5	do	19	11	50	Side-wheel, freight, Thunder Bay.
Jessie	Port Maitland	do	do	21	115	91	11	50	5	do	19	16	50	Screw-tug, Lake Erie.
Rescue	Toronto	Wm. Beatty	do	27	110	110	11	00	5	do	25	16	00	do Lake Ontario and Quebec.
Armenia	Chatham	J. G. Pennefather	July	1	365	241	36	50	5	July	2	41	50	do freight, Montreal and Chicago
St. Clair	Rondeau	do do	do	12	36	15	3	60	5	June	3	8	60	do tug, Rondeau Harbor.
J. R. Crow	do	do do	do	14	91	77	9	10	5	do	9	14	10	do tug and freight, Rondeau and Pelee Island.
Wm. Hall	do	do do	do	14	56	31	5	60	5	Aug.	25	10	60	Screw, tug and freight, Rondeau and Pelee Island.
Vanderbilt	Chatham	do do	do	14	169	90	16	90	5	July	15	21	90	Screw barge, Georgian Bay and Lake Erie.
California	Hamilton	Wm. Beatty	do	22	360	244	36	00	8	June	23	44	00	Screw, freight, Montreal and Chicago
Colin Munro	Port Stanley	Wm. Hemphill	do	23	25	20	2	10	5	do	30	7	10	Screw tug, Port Stanley Harbor.
Prince Alfred	Waubushene	Chas. B. Mackay	do	29	19	10	1	90	5	May	28	6	90	do Waubushene.

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Steam Vessels Inspected, for the Year ending 31st December, 1873.—*Continued.*

WEST ONTARIO DIVISION.—*Continued.*

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						$ cts.	$		$ cts.	
Victoria (of Belle Ewart)	Orillia	Chas. B. Mackay	July 30	64	39	6 40	5	Aug. 11	11 40	Screw tug, Lake Simcoe.
Isabella	do	do do	do 30	43	43	8 66	10	Oct. 4	18 66	do do
Simcoe	do	do do	do 30	26	29	2 60	5	May 14	7 60	do do
Carriella	do	do do	do 30	29	19	2 90	5	Aug. 2	7 90	Screw, passengers and freight, Lake Couchiching.
Ida Burton	do	do do	do 31	54	20	5 48	5	do 2	10 48	Side-wheel, passengers and freight, Lake Couchiching.
Emily May	Belle Ewart	do do	do 31	181	104	18 10	8	July 30	26 10	Side-wheel, passenger and freight, Lake Simcoe and Couchiching.
Emily Dunham	do	do do	Aug. 1	32	32	3 20	5	Aug. 2	8 20	Paddle, ferry, Belle Ewart and Roach's Point.
Advance	do	do do	do 1	41	26	4 10	5	May 4	9 10	Screw tug, Lake Simcoe.
G. S. Hathaway	do	do do	do 1	14	8	1 45	5	do 4	6 45	do Holland River.
Dean	Gravenhurst	do do	do 4	7	7	0 70	5	July 9	5 70	do passengers and mails, Lake Muskoka.
Nipissing	do	do do	do 5	94	52	9 40	5	do 9	14 40	Side-wheel, passengers and freight, Lake Muskoka.
Silver Spray	Toronto	do do	do 9	173	142	17 30	8	Sept. 2	25 30	Side-wheel, passengers and freight, Toronto and Port Dalhousie.
Tecumseh	Chatham	J. G. Pennefather	do 15	633	543	63 30	5	Aug. 14	68 30	Screw, freight, Port Colborne and Chicago.
Wm. Seymour	Goderich	D. Doty	do 21	77	46	7 70	5	May 5	12 70	Screw, passengers and freight, Sarnia and Southampton.
Samuel R. Norcrop	do	do	do 21	22	22	2 20	5	do 8	7 20	Screw tug, Goderich Harbor.
Susan C. Doty	do	do	do 22	21	17	2 10	5	do 5	7 10	do do and Lake Huron
East	do	do	do 22	347	219	34 70	8	do 5	42 70	Screw, passengers and freight, Port Colborne and Chicago.
Asia	St. Catherine's	James Clark	do 27	347	267	34 70	8	Aug. 23	42 70	Screw, passengers and freight, Montreal and Chicago.
Cumberland	Collingwood	Geo. Watson	Sept. 11	418	228	41 80	8	July 11	49 80	Side-wheel, passengers and freight, Collingwood and Fort William.
Colonel Strickland	Lakefield	Charles Perry	do 16	57	44	5 75	5	Aug. 28	10 75	Side-wheel, passengers and freight, Lakes Stoney and Clear.
Enterprise (of Lindsey)	Lindsay	D. Browne	do 18	117	117	11 70	5	Sept. 17	16 70	Screw, freight, Port Perry and Fenelon Falls.

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Niagara	Cobourg	George Perry	do	24	15	6	1	50	5	do	3	6	50	Screw tug, Cobourg Harbor.
Emma Munson	do	do	do	24	32	13	3	26	5	do	25	8	26	do do and Lake Ontario.
Lizzie	Port Colborne	W. A. Macrae	Oct.	3	24	18	2	40	5	Oct.	1	7	40	Screw tug, Port Colborne Harbour.
Olivia Gordon	do	W. A. Routh	do	3	33	33	3	30	5	do	3	8	30	do do do
Hector	do	do	do	3	43	35	4	30	5	do	3	9	30	do do do
L. N. G.	Toronto	Chas. B. Mackay	do	18	11	7	1	10	5	do	9	6	10	do Toronto do
Florence	Sarnia	J. W. Verner	do	22	108	73	10	80	8	April	7	18	80	Screw, passengers-ferry, Sarnia and Port Huron.
Wenonah	Gravenhurst	Chas. B. Mackay	Not inspected		62	62	6	20	5	July	9	11	20	Side-wheel, was on stocks; not inspected.
T. R. Secord	Goderich	D. Doty	do		18	14	1	40	5	May	8	6	40	Screw tug, bridge tender.
R. B. McPherson	do	do	do		29	26	2	90	5	do	8	7	90	do do
Perry	Chatham	J. G. Pennefather	do		30	30	3	00	5	Oct.	9	8	00	do Thames and Detroit Rivers.
Acadia	Hamilton	W. H. Kitson	do		339	217	33	90	8	June	20	41	90	Screw, passengers and freight, Montreal and Chicago.
Philo Bennett	Wallaceburg	do	do		7	7	Not paid							Screw tug; now at Owen Sound.
Minnie Walker	Southampton	do	do		19	19	1	90	5			6	90	do dredge tug, Southampton.
Almeda Covell	Toronto	do	do			Not registered								do do Toronto.
Cayuga	Amherstburg	do	do		33	33								Screw barge, Detroit River.

EAST ONTARIO DIVISION.

Hiram A. Calvin	Garden Island	W. B. Simpson	April	2	309	163	30	90	5	April	3	35	90	Side-wheel tug on Lake Ontario and River St. Lawrence.
Wellington	do	do	do	7	400	221	40	00	5	do	5	45	00	Side-wheel tug on Lake Ontario and River St. Lawrence.
Bay of Quinte	do	do	do	7	250	150	25	00	5	do	5	30	00	Side-wheel tug on Lake Ontario and River St. Lawrence
William	do	do	do	7	267	109	26	70	5	do	5	31	70	Side-wheel tug on Riv. St. Lawrence.
Pierrepont	Kingston	do	do	9	149	82	14	90	8	do	12	22	90	do passengers, Kingston to Cape Vincent.
Watertown	do	do	do	9	154	103	15	40	8	do	12	23	40	Side-wheel, passengers, Kingston to Cape Vincent.
Metamora	do	do	do	14	239	151	23	90	5	do	16	28	90	Screw tug, on Upper Lakes.
Rochester	do	do	do	14	211	77	21	20	8	do	28	29	20	Side-wheel, passengers, Bay of Quinte
John Bright	do	Anthony Dixon	do	14	30	13	3	00	5	do	10	8	00	Screw tug, on Bay of Quinte and River.
John A. Macdonald	Garden Island	W. B. Simpson	do	15	268	119	26	80	5	do	5	31	80	Side-wheel, tug, Montreal to Quebec.
S. S. Edsall	Kingston	do	do	19	150	94	15	00	5	do	22	20	00	Screw tug, on Lake Ontario and River.
America	Garden Island	do	do	21	221	109	23	10	5	do	5	27	10	Side-wheel, tug, on Lake St. Louis.
Glide	Kingston	do	do	22	61	20	6	10	5	do	22	11	10	Screw tug, Kingston to Montreal.
Corsican	do	do	do	24	435	244	43	50	8	do	23	51	50	Side-wheel, passengers, Hamilton to Montreal.

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Steam Vessels Inspected for the Year ending 31st December, 1873.—*Continued.*

EAST ONTARIO DIVISION.—*Continued.*

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						$ cts	$		$ cts	
Maud	Kingston	W.B.Simpson	April 24	121	46	12 10	8	April 24	20 10	Side-wheel, passengers, Kingston to Cape Vincent.
Spartan	do	do	do 24	424	264	42 40	8	do 23	50 40	Side-wheel, passengers, Hamilton to Montreal.
Bristol	Portsmouth	do	do 26	340	277	34 00	5	do 26	39 00	Screw, freight, Montreal and Chicago.
Lake Michigan	Cornwall	W.H.Kittson	do 28	365	301	36 50	8	do 18	44 50	do passengers do do
Nile	Kingston	W.B.Simpson	do 28	89	59	8 90	5	do 17	13 90	do freight, Rideau Canal and River.
Wren	do	do	do 29	57	15	5 70	5	do 22	10 70	do tug, Kingston to Montreal.
City of Hamilton	Garden Island	do	do 30	224	120	22 40	5	do 5	27 40	Side-wheel, tug, Bay of Quinte to Montreal.
Rose	Portsmouth	do	do 30	121	92	12 10	5	do 25	17 10	Screw, freight steamer, Rideau Canal and River.
Carlyle	do	do	do 30	114	75	11 50	5	do 25	16 50	Screw, freight steamer, Rideau Canal and River.
Robert Anglin	do	do	do 30	105	48	10 50	5	do 25	15 50	Screw, freight steamer, Rideau Canal and River.
Portsmouth	do	do	do 30	153	98	15 30	5	do 25	20 30	Screw, freight steamer, Rideau Canal and River.
Bruno	Kingston	do	May 2	359	236	35 90	5	do 25	40 90	Screw, freight, Montreal to Chicago.
Corinthian	Montreal	A. Delisle	do 5	374	220	37 40	8	May 3	45 40	Side-wheel, passengers, Montreal to Hamilton.
MargarettaStevenson	do	do	do 5	113	66	11 30	8	do 7	19 30	Side-wheel, passengers, on Lower St. Lawrence.
Passport	do	do	do 5	346	162	34 60	8	do 3	42 60	Side wheel, passengers, Montreal to Hamilton.
Pictou	do	John P. Clute	do 6	248	76	24 80	8	April 26	32 80	Side-wheel, passengers, Montreal and Belleville.
Castor	do	A. Delisle	do 7	92	40	17 40	10	May 28	27 40	Screw tug, Montreal and Lake Champlain.
Matilda	do	do	do 7	86	22	8 60	5	do 27	13 60	Side-wheel, tug, Montrea and Ottawa.
Aid	do	do	do 7	89	23	16 20	10	do 28	26 20	Side-wheel, tug, Montreal and Ottawa.
St Lawrence	do	do	do 8	244	107	42 60	5	do 8	47 60	Screw, freight, Quebec and Chicago.

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Manitoba	Cornwall	R. K. Bullock	do	9	134	66	13 40	8	do	9	21 40	Side wheel, passengers and tug, River St. Lawrence.
Norfolk	Pictou	John P. Clute	do	17	70	42	7 00	5	do	6	12 00	Side-wheel, passengers, Bay of Quinte.
Jessie Abbey	Mill Point	John Benson	do	17	41	26	4 00	5	do	14	9 00	Screw tug.
Gaselle (or Raftsman)	Kingston	W. B. Simpson	do	17	94	52	9 40	8	do	31	17 40	Side-wheel, passengers, River St. Lawrence.
H. M. Mixer	Portsmouth	do	do	20	21	9	2 10	5	April	19	7 10	Screw tug, Kingston and Bay of Quinte.
Lady Franklin	do	do	do	20	32	19	3 20	5	do	19	8 20	Screw tug, Kingston and Bay of Quinte.
Grenville	Kingston	do	do	28	21	11	2 10	5	May	19	7 10	Screw tug, on Rideau Canal.
Starling	Belleville	Anthony Dixon	do	30	6	2	1 20	5	do	30	6 20	Screw tug, on Bay of Quinte.
Ellen Jeffers	do	do do	do	30	33	14	3 30	5	do	6	8 30	do do do
Prince Edward	do	do do	do	30	72	26	7 20	5	April	15	12 20	Side-wheel, ferry, Belleville and Prince Edward.
Simon Davis	Kingston	W. B. Simpson	June	2	24	17	2 40	5	do	19	7 40	Screw, fish-boat, Kingston and Port Ontario.
Africa	do	do	do	9	352	265	35 20	8	May	16	43 20	Screw, passengers and freight, Montreal and Chicago.
Eleanor	Portsmouth	do	do	9	22	10	2 30	5	June	2	7 30	Screw tug, on Rideau Canal.
Norman	Kingston	do	do	14	151	112	15 10	5	April	19	20 10	Screw, freight, Bay of Quinte, etc.
Kincardine	do	do	do	17	176	132	17 60	5	June	17	22 60	Screw, freight, Bay of Quinte and Lake Ontario.
Athenian	Charlotte	do	do	25	1083	705	108 30	8	do	27	116 30	Side-wheel, passengers, Lake Ontario and Prescott.
Abyssinian	do	do	do	25	1044	720	104 40	8	do	27	112 40	Side-wheel, passengers, Lake Ontario and Prescott.
York	Kingston	do	July	2	351	195	35 10	5	July	2	40 10	Side-wheel, freight, Hamilton and Montreal.
Bruce	Ottawa	Z. Wilson	do	16	107	87	10 70	8	June	20	18 70	Side-wheel, passengers, on Rideau Canal.
Monitor	Aylmer	do	do	16	144	88	14 40	5	do	25	19 40	Side-wheel, tug, on Du Chene Lake.
Jessie Cassels	do	do	do	16	265	181	26 50	8	May	30	34 50	do passengers, do do
Prince Arthur	Portage du Fort	do	do	17	239	169	23 90	8	do	30	31 90	Side-wheel, passengers, Chats Lake.
Jason Gould	Cobden	do	do	18	37	22	3 70	5	do	30	8 70	do do Musk-Rat Lake.
Deux Riviere	Deux Riviere	do	do	19	84	34	8 40	5	do	30	13 40	do do Roche Captain to Deux Riviere.
John Egan	Pembroke	do	do	21	238	98	23 80	8	do	30	31 80	Side-wheel, passengers, Des Joachims to Pembroke.
Allumette	Hargrave	do	do	22	22	5	2 20	5	do	28	7 20	Side-wheel, passengers, Chapeau to Hargrave.
Sir John Young	do	do	do	22	157	56	15 80	8	do	30	23 80	Side-wheel, passengers, Chapeau to Hargrave.
Enterprise	Carleton Place	do	do	23	41	18	4 10	5		14	9 10	Side-wheel, tug steamer, on Mississippi Lake.
Adventure	Kingston	W. B. Simpson	do	28	156	108	15 60	5	July	28	20 60	Screw, freight, on Rideau Canal and River.
Lily	do	do	do	31	13	8	1 30	5	do	14	6 30	Screw tug, Rideau Canal, Bay and River.
Elswood	do	do	Aug.	4	25	7	2 50	5	May	6	7 50	Screw tug, Rideau Canal, Bay and River.

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STEAM VESSELS Inspected, for the Year ending 31st December, 1873.—*Continued.*

EAST ONTARIO DIVISION.—*Continued.*

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						$ cts.	$		$ cts.	
Saxon	Kingston	W.B.Simpson	May 6	172	110	17 20	5	July 21	22 20	Screw, barge, freight, Bay, River and Lake.
Kitty Friel	do	do	do 9	91	62	6 60 2 50	5 0	June 6 Sept. 4	14 10	Screw, barge, freight, Rideau Canal and River.
Chaudiere	Aylmer	Z. Wilson	do 20	234	68	23 40	5	May 30	28 40	Side-wheel, tug, Du Chene Lake.
Emerald	do	do	do 21	90	56	9 00	5	do 30	14 00	do do do
Oregon	Portage du Fort	do	do 21	75	50	7 50	5	do 30	12 50	do do Chats Lake.
Snow Bird	do do	do	do 21	62	45	6 20	5	do 30	11 20	do do do
Alliance	do do	do	do 21	191	167	19 10	5	do 30	24 10	do do do
Kepawe	Des Joachims	do	do 23	43	7	4 30	5	do 30	9 30	do passenger, Des Joachms River.
Forest Queen	Pembroke	do	do 23	229	93	22 90	5	do 30	27 90	Side-wheel tug. Allumette Lake.
Pembroke	do	do	do 23	62	57	6 20	5	do 30	11 20	do do do
St. Jean Baptiste	Prescott	B.D.Jessup	do 30	116	74	11 60	8	July 15	19 60	do ferry, between Prescott and Ogdensburg.
Royal	Cornwall	E.D.Phillips	Sept. 5	6	2	0 60	5	do 4	5 60	Screw, passenger, between Dundee and Cornwall.
Gatineau	Kingston	W.B. Simpson.	do 12	121	85	12 10	5	June 23	17 10	Screw, freight, between Ottawa and Cape Vincent.
Dell	Merrickville	Z. Wilson	do 26	9	4	0 90	5	May 16	5 90	Screw tug, Rideau Canal.
Mary Ann	do	do	do 27	42	32	4 20	5	do 10	9 20	do do do
Welshman	Kingston	W.B.Simpson	Oct. 3	130	90	13 00	5	Sept. 19	18 00	do freight, Rideau Canal, River and Bay.
Ivanhoe	Napanee	John Benson	do 23	62	33	6 20	5	Oct. 23	11 20	Screw, freight steamer, Bay of Quinte, River and Lake.
Water Lily	Kingston	W.B.Simpson	do 31	97	74	9 70	5	April 19	14 70	Screw, freight and tug, Rideau Canal and River.

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MONTREAL DIVISION.

Champlain	Ottawa	Wm. Bleakley	May	1	117	47	11	70	5	April	28	16	70	Paddle tug, Ottawa and Whitehall.
England	do	Z. Wilson	do	1	142	54	14	20	5	May	1	19	20	do Ottawa and Grenville.
Engineer	do	do	do	1	27	8	2	70	5	do	2	7	70	Screw tug, Ottawa and Whitehall.
Caroline	do	do	do	1	101	46	10	10	5	do	2	15	10	Screw, freight, Montreal and Ottawa.
Louise	do	do	do	1	157	62	15	70	5	do	2	20	70	Paddle tug, Ottawa and Grenville.
Jane	do	do	do	1	99	49	9	90	5	April	25	14	90	Paddle, passenger, Ottawa and Hull.
Mac	do	do	do	2	107	21	10	70	8	do	30	18	70	Paddle, passenger, Ottawa River.
Rover	do	Wm. Bleakley	do	2	114	25	11	40	5	do	28	16	40	Paddle tug, Ottawa River.
Morel	do	do	do	2	83	18	8	30	5	do	28	13	30	do do
Peer ss	do	Z. Wilson	do	2	327	120	82	70	8	May	2	40	70	Paddle, passenger, Ottawa River.
Ferry, Victoria	do	do	do	2	104	26	10	40	8	do	2	18	40	do do
Cygne	Lachine	Wm. Bleakley	do	5	44	16	4	40	5	do	15	9	40	Paddle tug, Grace's Point and Montreal.
British America	do	do	do	5	83	52	8	30	5	June	21	13	30	do Lachine and Carillon.
Hope	do	do	do	5	126	40	12	60	5	May	15	17	60	do Carillon and Whitehall.
Aurora	do	do	do	5	113	87	11	30	8	April	22	19	30	Paddle, passenger, Lachine and Caughnawaga.
Albert	do	do	do	5	104	30	10	40	5	May	15	15	40	Paddle tug, Montreal and Ottawa.
Magnet	Montreal	do	do	6	427	148	42	70	8	do	3	50	70	Paddle, passenger, Montreal and Hamilton.
H. F. Bronson	do	do	do	6	101	28	10	10	5	do	6	15	10	Screw tug, Montreal and Kingston,
Arctic	do	do	do	6	104	41	10	40	5	do	2	15	40	Screw, freight, Montreal and Ottawa.
Bytown	do	do	do	6	76	34	7	60	5	do	1	14	60	Paddle, freight, do
Champion	do	do	do	6	124	36	12	40	5	do	7	17	40	Screw tug, Montreal and Whitehall.
Shickluna	do	do	do	7	57	17	5	70	5	do	7	10	70	do do do
Alice	do	do	do	7	83	33	8	30	5	May	2	13	30	Paddle, freight, Montreal and Ottawa.
Elfin	do	do	do	7	74	10	7	40	5	do	6	12	40	Screw tug, Montreal and Kingston.
Charlotte	do	do	do	7	41	10	4	10	5	do	6	9	10	do do do
Fawn	do	do	do	8	83	30	8	30	5	do	8	13	30	Paddle tug, Ottawa and Lake Champlain.
Grain Elevator, No. 3	do	do	do	8	95	None	9	50	5	June	7	14	50	Grain Elevator, Montreal Harbour.
do do 4	do	do	do	8	95	41	9	50	5	do	7	14	50	do do
do do 2	do	do	do	8	95	None	9	50	5	do	7	14	50	do do
do de 7	do	do	do	8	98	23	9	80	5	do	7	14	80	do do
do do 1	do	do	do	8	95	None	9	50	5	do	7	14	50	do do
"Quebec," No. 8	do	do	do	8	132	90	13	20	5	do	7	18	20	do do
Cultivateur	do	do	do	8	205	41	20	50	5	May	15	25	50	Paddle tug, Carillon and Chambly.
Minnie F. Varson's	do	do	do	8	45	None	4	50	5	do	14	9	50	Screw tug, Montreal Harbour.
Maid of Canada	do	do	do	9	314	125	31	40	8	June	24	39	40	Paddle, passengers, Montreal and St. Lambert.
John Brown	do	do	do	9	87	59	8	70	5	May	14	13	70	Screw tug, Montreal Harbour.
Plover	do	do	do	9	45	16	4	50	5	June	3	9	50	do do
Messengers	do	do	do	13	28	18	2	30	5	do	3	7	80	do do
Carillon	do	do	do	13	87	8	8	70	5	July	16	13	70	Paddle tug, Montreal and Chambly.
Sancho	do	do	do	13	39	10	3	90	5	June	9	8	90	Screw tug, Ottawa and Whitehall.
City of Ottawa	do	do	do	13	123	65	12	30	5	May	14	17	30	Paddle tug, Montreal and Grenville.
White Bird	do	do	do	13	18	None	1	80	5	do	26	6	80	Screw tug, Ottawa and Chambly.
Jennie	do	do	do	14	9	do		90	5	do	14	5	90	do Montreal and Côteau Landing.

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STEAM VESSELS Inspected, for the Year ending 31st December, 1873.—*Continued.*

MONTREAL DIVISION.—*Continued.*

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						$ cts.	$		$ cts.	
Express	Montreal	Wm. Bleakley	May 14	58	42	5 80	5	May 27	10 80	Screw tug, Montreal and Ottawa.
Beauharnois	do	do	do 14	165	44	16 50	8	June 9	34 50	Paddle, passengers, Montreal and Beauharnois.
Mark Twain	do	do	do 14	95	None	9 50	5	May 7	14 50	Screw tug, Montreal and Ottawa.
Laprairie	do	do	do 15	342	168	34 20	8	June 3	42 20	Paddle, passengers, Montreal and Laprairie.
Atlas	do	do	do 19	180	40	18 00	8	May 21	26 00	Paddle, passengers, Montreal and Carillon.
Francis	do	do	do 19	36	7	3 60	5	June 21	8 60	Screw tug, Montreal and Ottawa.
Grain Elevator, No. 5	do	do	do 20	95	None	9 50	5	do 7	14 50	Screw, Grain Elevator, Montreal Harbour.
Dagmar	do	do	do 20	141	55	14 10	8	May 21	22 10	Paddle, passengers, Montreal and Carillon.
Royal	do	do	do 23	260	164	26 00	5	June 21	31 00	Paddle tug, Montreal and Quebec.
Adolphus	do	do	do 23	17	7	1 70	5	May 23	6 70	do do Carillon.
Allen	do	do	do 23	57	17	5 70	5	June 3	10 70	Screw tug, Ottawa and Whitehall.
Banshee	do	do	do 23	274	133	27 40	8	May 23	35 40	Paddle, passengers, Montreal and Cornwall.
Montarville	Longueuil	do	do 23	253	114	25 30	8	do 28	33 30	Paddle, passengers, Montreal and Longueuil.
Longueuil	do	do	do 23	308	189	30 84	8	do 28	38 80	Paddle, passengers, Hochelaga and Longueuil.
J. B. A.	Montreal	do	June 6	124	96	12 40	5	July 2	17 40	Paddle tug, Montreal and Whitehall.
Mink	do	do	do 6	52	22	5 20	5	June 6	10 20	Screw tug, Montreal and Ottawa.
Victory	do	do	do 7	42	15	4 20	5	do 3	9 20	do do Sorel.
Canada	do	Z. Wilson	do 9	81	11	8 10	5	May 26	13 10	Paddle tug, Montreal and Whitehall.
Oak	do	Wm. Bleakley	do 9	93	21	9 30	5	June 14	14 30	do do do
Dandy	do	Z. Wilson	do 9	46	15	4 60	5	do 6	9 60	Screw tug, Ottawa and Whitehall.
Boston	do	Wm. Bleakley	do 10	83	25	8 30	5	Aug. 7	13 30	Paddle tug, Montreal and Ottawa.
Wood	do	do	do 10	97	23	9 70	5	June 14	14 70	do do do
L. Shickluna	do	do	do 24	362	295	36 20	8	do 21	44 20	Screw, freight, Montreal and Chicago.
Grain Elevator, No. 6	do	do	do 21	100	None	10 00	5	Aug. 22	15 00	Grain Elevator, screw, Montreal Harbour.
Bavarian	do	do	do 30	427	230	42 70	8	July 14	50 70	Paddle, passengers, Montreal and Hamilton.

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Alexandra	Carillon	Z. Wilson	July	15	265	95	26	50	5	May	2	31 50	Paddle tug, Montreal and Carillon.
Nil Desperandum	do	Wm. Bleakley	do	15	20	None	2	00	5	July	25	7 00	Stern-wheel, passengers, Point Fortune and Carillon.
Eclair	Hawkesbury	do	do	15	7	1	0	70	5	do	18	5 70	Paddle, passengers, Grenville and Carillon.
Mande	Ottawa	do	do	16	133	43	13	30	5	May	21	18 30	Paddle tug, Ottawa and Grenville.
Queen Victoria	do	Z. Wilson	do	16	217	61	21	70	8	do	21	29 70	Paddle, passengers, Montreal, Ottawa and Grenville.
Swan	do	do	do	16	39	12	3	90	5	June	30	8 90	Screw tug, Montreal and Ottawa.
Bohemian	Montreal	Wm. Bleakley	do	17	377	174	37	70	8	July	17	45 70	Paddle, passengers, Montreal and Prescott.
Albert	do	do	do	24	30	16	3	00	5	do	26	8 00	Screw tug, Montreal and Beauharnois.
Ste. Catherine	do	do	do	26	8	5	0	80	5	do	26	5 80	do Lachine Canal.
M. K. D.	do	do	do	26	168	37	10	80	5	May	13	15 80	Paddle tug, Montreal and Grenville.
Prince of Wales	Lachine	do	Aug.	18	214	68	21	40	8	do	21	29 40	Paddle, passengers, Carillon and Lachine.
Grain Elevator, No. 9	Montreal	do	do	19	100	None	10	00	5	Aug.	22	15 00	Screw Grain Elevator, Montreal Harbour.
Relief	do	do	Sept.	23	87	17	8	70	5	Oct.	15	13 70	Paddle tug, St. Lawrence and Ottawa River.
L'Outarde	Charlemagne	do	do	25	30	None	3	00	5	do	15	8 00	Stem-wheel, passengers, Charlemagne and Point aux Trembles.
Active	Montreal	do	do	26	281	111	28	10	5	do	15	23 10	Screw tug, Montreal and Hamilton.

1873

QUEBEC DIVISION.

Champion	Ind'n Cove, Levis	J. W. Dunscomb, Quebec.	April	19	185	90	18	50	8	May	3	26 50	Screw propeller, tug, Gulf to Montreal, and to carry 25 passengers.
Georgia	Blais' Boom, Quebec	do do	do	26	648	427	64	80	8	do	6	72 80	Screw propeller, passengers and freight, Montreal to Pictou, N.S.
Beaver	Blais' Boom, Quebec	do do	May	3	147	100	14	90	8	do	6	22 70	Screw propeller, passenger and freight, Quebec and Campbellton.
Secret	Pallais, Quebec	do do	do	12	466	293	46	60	8	do		54 60	Side-wheel, passenger and freight Quebec and Pictou, N.S.
Samson	St. Lawrence Dock, Levis	do do	do	16	168	125	16	80	5	do	1	21 80	Side-wheel, towing in Saguenay River.
Levis	Levis	do do	do	9	158	100	15	80	8	do	20	23 80	Side-wheel, ferry, Quebec and Levis.
James	New Liverpool	do do	April	29	127	31	12	70	8	do	20	20 70	do passengers, Quebec and St. Ronald.
Hope	St. Lawrence Dock, Levis	do do	May	1	15	8	1	50	5	do	18	6 50	Screw, Quebec Harbour tug.
Lord Elgin	Blais' Boom, Quebec	do do	do	3	214	44	21	40	5	do	20	26 40	Side-wheel, towing, Montreal and Quebec.
Aurelia	St. Lawrence Dock, Levis	do do	do	9	32	19	3	20	5	do	18	8 20	Screw, towing, Montreal and Quebec.
Etoile	Quebec	do do	do	12	152	96	15	20	8	do	26	23 20	Side-wheel, passengers, Quebec and Grondine.

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STEAM VESSELS Inspected, for the Year ending 31st December, 1873.—*Continued.*

QUEBEC DIVISION.—*Continued.*

Name of Vessel.	Place of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						$ cts.	$		$ cts.	
Port Neuf	Quebec	J. W. Dunscomb, Quebec	May 12	218	137	21 80	8	May 26	29 80	Side-wheel, passengers, Quebec and St. Jean.
St. Nicholas	New Liverpool.	do do	do 16	82	52	8 20	8	do 27	16 20	Side-wheel, passengers, Quebec and New Liverpool.
St. Antoine	Quebec	do do	do 17	158	99	15 80	8	do 27	23 80	Side-wheel, passengers, Quebec and St. Antoine.
Quebec	Levis	do do	do 28	159	100	15 90	8	do 20	23 90	Side-wheel, ferry, Quebec and Levis.
Notre Dame de la Victoire	do	do do	do 28	135	66	13 50	8	do 20	21 50	do do do do
St. Croix	Quebec	do do	do 20	149	94	14 90	8	do 31	22 90	do passengers, Quebec and St. Croix.
Express	Indian Cove, Levis	do do	April 21	100	62	10 00	5	June 3	15 00	Side-wheel, passengers, Quebec and Berthier.
Ranger	Indian Cove, Levis	do do	do 22	241	152	24 19	8	do 7	32 19	Side-wheel, towing, Bic and Montreal, and to carry 25 passengers.
Helen	Sampson's Cove, Quebec	do do	do 24	135	85	13 50	5	do 7	18 50	Side-wheel, towing, Quebec and Montreal.
St. Lawrence	Sampson's Cove, Quebec	do do	do 26	869	468	86 99	8	do 7	94 90	Side-wheel, passengers, Quebec and Rimouski.
Tiger	Sampson's Cove, Quebec	do do	do 28	141	89	14 10	8	do 7	22 10	Side-wheel, passengers, Quebec and St. Anne.
Hero	Sampson's Cove, Quebec	do do	do 29	200	137	20 00	5	do 7	25 00	Side-wheel, towing, Brandy Pots and Montreal.
Canada	Wolf's Cove, Quebec	do do	do 29	144	19	14 40	5	do 14	19 40	Side-wheel, towing, Quebec and Montreal.
Eclipse	Wolf's Cove, Quebec	do do	do 29	216	33	21 60	8	do 7	29 60	Side-wheel, towing, Quebec and Montreal, and to carry few passengers.
St. George	Wolf's Cove, Quebec	do do	do 30	203	128	20 30	8	do 7	28 30	Side-wheel, Grand Trunk ferry, Quebec and Levis.
St. Andrew	Indian Cove, Levis	do do	May 1	218	137	21 80	8	do 7	29 80	Side-wheel, towing, Bic and Montreal, and to carry few passengers.
Scotchman	Sampson's Cove, Quebec	do do	do 2	89	36	8 90	5	do 7	13 90	Side-wheel, towing, Quebec and Montreal.
Quebec	Wolf's Cove, Quebec	do do	do 2	92	37	9 20	5	do 7	14 20	Side-wheel, towing, Quebec and Montreal.

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Clyde	Quebec	do	do	do			149	23 70	8	do	7	31 70	Side-wheel, passengers, Chicoutimi and Quebec.
St. Charles	Levis	do	do	do	12	63	65	10 30	5	do	14	15 30	Side-wheel, towing, Quebec and Montreal.
Napoleon III	Blais' Boom, Quebec	do	do	do	14	91	55	9 10	5	do	7	14 10	Side-wheel, towing, Quebec and Montreal.
Voyageur	Blais' Boom, Quebec	do	do	do	14	137	17	13 70	5	do	7	18 70	Side-wheel, towing, Quebec and Montreal.
Powerful	Blais' Boom, Quebec	do	do	do	14	199	125	19 90	5	do	7	24 90	Side-wheel, towing, Brandy Pots and Montreal.
Providence	Quebec	do	do	do	19	133	26	13 30	5	do	3	18 30	Side-wheel, towing, Montreal and Quebec.
Albion	Blais' Boom, Quebec	do	do	do	19	171	108	17 10	5	do	7	22 10	Side-wheel, towing, Montreal and Quebec.
Union	Blais' Boom, Quebec	do	do	do	13	687	433	68 70	8	do	7	76 70	Side-wheel, passengers, Quebec and Chicoutimi.
Gatineau	Blais' Boom, Quebec	do	do	do	26	175	78	17 50	5	do	7	22 50	Side-wheel, towing, Quebec and Montreal.
Contest	Indian Cove, Levis	do	do	do	30	231	90	23 10	5	do	7	28 10	Side-wheel, towing, Bic and Montreal.
Saguenay	Blais' Boom, Quebec	do	do	June	4	1077	654	107 70	8	do	7	115 70	Side-wheel, passengers, Quebec and Chicoutimi.
Shannon	Blais' Boom, Quebec	do	do	do	5	64	29	6 40	5	do	7	11 40	Screw, Quebec harbour tug.
Storm	Blais' Boom, Quebec	do	do	do	11	55	37	5 50	5	do	7	10 50	do do do
Mersey	Blais' Boom, Quebec	do	do	do	11	60	34	6 00	5	do	7	11 00	do do do
Mars	Quebec	do	do	do	13	37	24	3 70	5	do	13	8 70	do do do
Dauntless	do	do	do	June	13	81	55	8 10	5	June	13	13 10	Screw, towing, Quebec and Montrea
Flora	do	do	do	do	13	50	25	5 00	5	do	13	10 00	do do do
Anglesea	Indian Cove, Levis	do	do	May	26	153	97	15 30	5	do	16	20 30	Side-wheel, towing, Bic and Montreal
Hector	Levis	do	do	do	21	80	51	8 00	5	do	16	13 00	do do Quebec and Montreal.
Maid of Orleans	Indian Cove, Levis	do	do	do	5	120	76	12 00	8	do	14	20 00	Side-wheel, passengers, Quebec and Orleans Island.
Eugenie	Levis	do	do	do	16	139	87	13 90	8	do	18	21 90	Side-wheel, passengers, Quebec and St. Jean, Island of Orleans.
Reindeer	Dinning Boom, Quebec	do	do	do	10	127	64	12 70	5	do	25	17 70	Screw, towing, Brandy Pots and Montreal.
Rival	Quebec	do	do	do	31	125	36	12 50	5	do	16	17 50	Side-wheel, towing, Quebec and Montreal.
E. P. Doré	Levis	do	do	June	14	42	24	4 20	5	do	16	9 20	Screw, Quebec Harbor tug.
Resolute	Quebec	do	do	do	3	139	40	13 90	5	do	25	18 90	do towing, Bic and Montreal.
Rescue	Dinning Boom, Quebec	do	do	May	21	182	125	18 20	5	do	25	23 20	do do do
Rescue for 1872		do	do	do	21	182	125	18 20	5	do	25	23 20	
Miramichi	Dinning Boom, Quebec	do	do	June	14	722	491	72 20	8	do	17	80 20	Side-wheel, passengers, Quebec and Pictou, N.S.

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STEAM VESSELS Inspected, for the Year ending 31st December, 1873.—*Continued.*

QUEBEC DIVISION.—*Continued.*

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						$ cts.	$		$ cts.	
National	Levis	J.W. Dunscomb, Quebec	May 19	122	77	12 20	8	June 20	20 20	Side-wheel, passengers, Quebec and St. Nicholas.
City	do	do do	June 13	52	33	5 20	5	do 24	10 20	Side-wheel, towing, Quebec and Montreal.
New Dominion	Quebec	do do	do 17	38	20	3 80	5	do 20	8 80	Screw, Quebec Harbor tug.
Hercules	Dinning Boom, Quebec	do do	do 21	200	125	20 00	5	do 23	25 00	Side-wheel, towing, Brandy Pots and Montreal.
Pointe Levis	St. Nicholas and Levis	do do	April 17	93	59	9 30	5	do 26	14 30	Side-wheel, towing, Quebec and Montreal.
Humber	Levis	do do	May 31	13	10	1 30	5	July 17	6 30	Screw, Quebec Harbor tug.
Arctic	Quebec	do do	July 30	153	104	15 30	8	June 7	23 30	do Winter ferry, Quebec and Levis.
Margaret	do	do do	do 17	67	36	6 70	5	do 13	11 70	Screw, Quebec Harbor tug.
Kate	Levis	do do	do 8	24	16	2 40	5	do 13	7 40	do do
Fire Fly	Quebec	do do	do 31	28	18	2 80	5	do 25	7 80	Side-wheel, towing, Quebec and Montreal.
Conqueror, No. 2	Levis	do do	do 11	233	24	23 35	5	July 30	28 30	Side-wheel, towing, Gulf and Montreal.
do 1	do	do do	do 24	199	15	19 90	5	do 30	24 90	Side-wheel, towing, Gulf and Montreal.
Fairy	Sampson's Boom, Quebec	do do	do 24	13	9	1 30	5	do 4	6 30	Screw, Quebec Harbor tug.
Amanda	Levis	do do	Aug. 23	11	9	1 10	5	Aug. 22	6 10	do do
Rival	Additional Fee.	do do	.....	.....	.....	.....	3	do 22	3 00	Side-wheel, towing and carry passengers, Quebec and Montreal.
Picton	Levis	do do	July 30	756	544	75 60	8	Oct. 30	83 60	Screw, freight and passengers, Montreal and Halifax.
Flamborough	do	do do	do 21	670	455	67 60	8	do	75 00	Screw, freight and passengers, Montreal and Halifax.
St. Joseph	do	do do	Aug. 13	22	6	2 20	5	Nov. 15	7 20	Side-wheel, towing, Harbor of Quebec.
Ariel	do	do do	June 16	126	79	12 60	8	do 17	20 60	Screw, passengers, Quebec, Natashwan

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Prince Edward	do	do do	Oct. 29	162	112	16 20	8	Dec. 2	24 20	Screw, winter ferry, Quebec and Levis.
Southern	Not Inspected..	....	.....	1,622	906	.....	....	....	.....	Side-wheel, passengers, Montreal and Pictou, N.S.
Northern	do ..	.....	.....	1,622	904	.....	....	.....	.....	Side-wheel, passengers, Montreal and Pictou, N.S.

THREE RIVERS DIVISION.

Fire Fly.....	Sorel.....	Wm. Bleakley..	April	16	92	46	9 20	5	May	1	14 20	Paddle, passengers, St. Francis & Sorel
Merrott	do	do ..	do	17	1,127	979	112 70	5	April	19	117 70	Screw, freight, Quebec and Montreal.
Belisle	do	do ..	do	21	45	17	4 50	5	May	14	9 50	Screw tug, Montreal Harbor.
Castor.....	do	do ..	do	21	92	58	9 20	5	do	13	14 20	Paddle tug, St. Francis and Chambly.
Sorel	do	do ..	do	22	86	43	8 60	8	do	1	16 60	Paddle, passenger, Berthier and Sorel.
William.....	do	do ..	do	23	207	103	20 70	8	June	3	28 70	do Quebec and Montreal.
Chambly	do	do .	do	23	238	76	23 80	8	May	1	31 80	do Montreal and Chambly
Montreal	do	do ..	do	23	570	284	57 00	8	do	1	65 00	do Montreal and Quebec.
Berthier.....	do	do ..	do	23	350	153	35 00	8	do	1	43 00	do Berthier and Montreal.
Champion.....	do	do ..	do	24	373	127	37 30	8	June	3	45 30	do and tug, Quebec and Montreal.
Berthier.....	do	do ..	do	24	76	29	7 60	5	May	15	12 60	Paddle tug, Three Rivers & Chambly.
Cariboo	do	do ..	do	24	86	4	8 60	5	do	3	13 60	Screw tug, Ottawa and Chambly.
Victoria.....	do	do ..	do	25	274	114	27 40	5	do	15	32 40	Paddle tug, Montreal and Sorel.
New York.....	do	do ..	do	25	176	53	17 60	8	do	7	25 60	do Montreal and Chambly.
Terrebonne	do	do ..	do	25	193	55	19 30	8	do	1	27 30	Paddle, passengers, Montreal and Terrebonne.
Boston	do	do ..	do	25	177	33	17 70	5	do	12	22 70	Paddle tug, Montreal and Quebec.
L'Assomption	do	do ..	do	26	39	28	3 90	5	July	4	8 90	Stern-wheel, passengers, L'Assomption and Montreal.
Rocket	do	do ..	do	26	387	172	38 70	8	April	26	46 70	Paddle, passengers, and tug, Montreal and Gulf.
Ignatius Tyler.....	do	do ..	do	26	105	21	10 50	5	do	29	15 50	Paddle tug, Rivière du Loup and Burlington.
Meteor.....	do	do ..	do	26	252	109	25 20	8	do	19	33 20	Paddle tug, and passenger, Montreal and Quebec.
Bismark.....	do	do ..	do	28	18	10	1 80	5	June	12	6 80	Stern-wheel tug, Rivière du Loup and Sorel.
John	do	do ..	do	28	104	44	10 40	5	May	15	15 40	Paddle tug, Montreal and Whitehall.
Quebec.....	do	do ..	do	28	838	527	83 80	8	do	1	91 80	Paddle, passengers, Montreal & Quebec
Montreal	do	do .	May	3	114	29	11 40	5	do	15	16 40	Paddle tug, Sorel and Chambly.
Lincoln	do	do ..	do	3	82	43	8 20	5	do	15	13 20	do Lachine and Ottawa.
Trois Riviere.....	do	do ..	do	10	503	225	50 30	8	do	1	58 30	Paddle, passengers, Three Rivers and Montreal.
L'Assomption	do	do ..	do	10	176	80	17 60	5	do	15	22 60	Paddle tug, Montreal and Chambly.
Canada.....	do	do ..	do	10	644	503	64 40	8	June	26	72 40	Paddle, passengers, Montreal & Quebec
Richelieu.....	do	do ..	do	10	126	68	free	....	.....		.....	do Lights and Buoys.
Mary.....	do	do ..	do	10	60	22	6 00	5	do	3	11 00	Paddle tug, Montreal and Quebec.
Louis Tourville. ...	do	do ...	do	10	72	34	7 20	5	May	6	12 20	Screw tug, Ottawa and Grenville.

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STEAM VESSELS Inspected, for the Year ending 31st December, 1873.—*Continued.*

THREE RIVERS DIVISION.—*Continued.*

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						$ cts.	$		$ cts.	
Alamakis	Sorel	Wm. Bleakley	May 17	93	23	9 30	5	May 19	14 30	Stern-wheel, passengers, Pierreville and Chambly.
L. A. Senecal	do	do	do 17	69	32	6 90	5	June 6	11 90	Screw tug, Montreal and Whitehall.
Lucinda	do	do	do 17	42	21	4 20	5	Aug. 7	9 20	Stern-wheel tug, Batiscan and Three Rivers.
Manxman	do	do	do 17	42	21	4 20	5	June 28	9 20	Stern-wheel tug, Ottawa & Grenville.
Marie	do	do	do 30	23	15	2 30	5	do 2	7 30	do Three Rivers & Chambly
Beaver	do	do	June 2	220	104	22 00	5	do 9	27 00	Paddle tug, Montreal and Quebec.
Vermont	do	do	do 5	117	47	11 70	5	do 3	16 70	do Montreal and Chambly.
Dixie	Three Rivers	C. Godby	July 1	185	134	18 50	8	July 1	26 50	Paddle, passengers, Three Rivers and St. Geneviéve.
Laval	do	do	do 1	90	65	9 00	5	do 1	14 00	Paddle tug, Three Rivers & St. Maurice
Arthur	do	do	do 1	15	7	1 50	5	do 1	6 50	do do
Monasel	do	do	do 1	34	Notknown	3 40	5	do 1	8 40	do do
St. Paul	do	do	do 2	20	do	Not paid.				Paddle; did not run.
Dora	do	do	do 2	45	do	4 50	5	do 2	9 50	Paddle tug, Nicolet River.
King Bird	Rivière du Loup	Wm. Bleakley	do 12	7	3	70	5	Aug. 7	5 70	Stern-wheel tug, Rivière du Loup and Sorel.
Rivière du Loup	Sorel	do	Aug. 13	40	24	4 00	5	Oct. 16	9 00	Paddle, passengers, Rivière du Loup and Sorel.
Pic Nic	St. Hyacinthe	do	do 23	7	None	70	5	Aug. 23	5 70	Screw, passengers, St. Hyacinthe and St. Pie.
Maskenonge	Sorel	do	do 29	33	22	3 30	5	May 1	8 30	Paddle, passengers, Maskenonge & Sorel
Malford	do	do	Oct. 10					Not paid.		Stern-wheel; did not run.

NOVA SCOTIA AND NEW BRUNSWICK DIVISION.

Goliah	Halifax, N.S.	E. M. McDonald	Jan. 6	114	40	11 40	8	Jan. 5	19 04	Screw tug, Halifax Harbour, N.S.
Linda	Yarmouth, N.S.	T. Moberly	April 10	574	390	57 40	8	April 8	65 40	Screw passenger steamer between Yarmouth, St. John and Boston.
Gipsy	do	do	do 12	25	25	2 50	5	do 8	7 50	Screw tug, Yarmouth Harbour, N.S.

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M. A. Starr	Halifax, N.S	E. M. McDonald	do	15	244	166	24	40	8	do	14	32	40	Screw passenger steamer running coastwise, Nova Scotia.
David Weston	St. John, N.B	J. Johnson	do	18	765	552	76	50	8	do	21	84	50	Paddle passenger steamer on the River St. John.
Rothesay	do	do	do	22	839	627	83	90	8	May	1	91	40	Paddle passenger steamer on the River St. John.
Hiram Perry	do	do	do	23	79	39	7	90	5	April	23	12	90	Screw tug in St. John Harbour.
Norman	do	do	do	24	47	12	4	70	5	do	24	9	70	do do
General	do	do	May	2	159	25	15	90	8	May	1	23	90	Paddle tug boat in St. John Harbour.
Sunbury	do	do	do	3	184	108	18	40	8	do	3	26	40	do do do
Ada G	do	do	do	5	102	30	10	20	8	do	3	18	20	do do do
Lincoln	do	do	do	6	87	32	8	70	5	do	3	13	70	do do do
Speck	do	do	do	7	36	7	3	60	5	March	31	8	60	Screw tug boat, St. John River.
Tiger	do	do	do	7	105	19	10	50	8	May	1	18	50	Paddle do do do
Hercules	do	do	do	8	53	14	5	30	5	do	1	10	30	do do do
Scud	do	do	do	9	481	285	48	10	8	April	25	56	10	Paddle passenger steamer in the Bay of Fundy, N.B.
Dot	do	do	do	10	37	9	3	70	5	March	31	8	70	Screw tug boat, St. John River.
Antelope	do	do	do	12	128	77	12	80	8	May	3	20	80	Paddle do do do
Olive	do	do	do	13	366	257	36	60	8	do	9	44	60	Paddle passenger steamer on the River St. John.
City of Fredericton	Fredericton, N.B	A. G. Street	do	15	252	196	25	20	8	do	10	33	20	Stern-wheel passenger steamer on the Upper St. John River.
St. Patrick	St. John, N.B	J. Johnson	do	16	52	13	5	20	5	do	12	10	20	Screw tug boat, St. John Harbour.
St. John	do	do	do	17	34	6	3	40	5	April	23	8	40	do do do
Utopia	St. George, N.B.	J. A. Moran	do	20	17	17	1	70	5	May	15	6	70	Screw ferry boat, St. George, N.B.
Rothesay Castle	Shediac, N.B	D. Ferguson	do	23	177	84	17	70	8	do	12	25	70	Paddle passenger steamer coastwise, north shore of New Brunswick.
City of St. John	St. John, N.B.	J. Johnson	do	26	709	518	70	90	8	do	1	78	90	Paddle passenger steamer, coastwise, in the Bay of Fundy.
Victor	do	H. Whiteside	do	30	68	21	6	80	5	do	26	11	80	Screw tug, St. John harbour.
Captain	do	do	do	27	29	8	2	90	5	do	1	7	90	do do
Starr	do	do	June	2	461	128	46	10	8	June	3	54	10	Paddle passenger steamer on the Washadamoak Lake, N.B.
Empress	do	do	do	6	929	660	92	90	8	do	3	100	90	Paddle passenger steamer in the Bay of Fundy.
Geo. D. Hunter	do	do	do	21	67	13	6	70	5	do	21	11	70	Screw tug boat, Bay of Fundy.
Neptune	do	do	do	23	52	19	5	20	5	do	7	10	20	do do
Fred. Leavitt	Annapolis, N.S.	A. Fullerton	do	24	18	14	1	80	5	do	23	6	80	Screw ferry boat, Annapolis, N.S.
Andover	Fredericton, N.B	A. G. Street	do	26	185	139	18	50	8	do	27	26	50	Stern-wheel passenger steamer, Upper St. John River.
Enterprise	Woodstock, N.B	H. E. Dibble	do	28	20	20	2	00	5	do	30	7	00	Paddle ferry boat, Woodstock, N.B.
Western Extension	St. John, N.B	H. Whiteside	do	30	424	196	42	40	8	do	20	50	40	Paddle ferry boat, St. John Harbour.
Xanthus	do	do	July	2	64	23	6	40	5	do	28	11	40	Screw tug boat, Bay of Fundy.
G. W. Johnson	Yarmouth, N.S.	T. Moberly	do	15	72	35	7	20	5	July	15	12	20	do Yarmouth, N.S.
Teaser	Chatham, N.B.	D. Ferguson	do	25	42	24	4	20	5	do	26	9	20	Paddle ferry boat, Chatham, N.B.
New Era	Newcastle, N.B.	R. B. Haddow	do	26	54	43	5	40	5	do	26	10	40	do Newcastle, N.B.
Newcastle	do	do	do	26	30	20	3	00	5	do	25	8	00	do do
Sultan	do	do	do	28	50	15	5	00	5	do	28	10	00	Screw tug boat, Newcastle, N.B.
Relief	Chatham, N.B.	D. Ferguson	do	28	59	59	5	90	5	do	26	10	90	do Chatham, N.B.
Laddie	do	do	do	29	42	42	4	20	5	do	29	9	20	do do

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STEAM VESSELS Inspected, for the Year ending 31st December, 1873.—*Continued.*

NOVA SCOTIA AND NEW BRUNSWICK DIVISION.—*Continued.*

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						$ cts.	$		$ cts.	
Telegraph	St. John, N.B.	J. R. Ruel	Aug. 4	135	59	13 50	8	Aug. 4	21 50	Paddle ferry boat, Indiantown, N.B.
Frank	Summerside, P.E.I	Wm. Longworth	do 7	48	28	4 80	5	do 7	9 80	do Summerside, P.E.I.
Princess of Wales	Charlottetown, P.E.I	D. McCulloch	do 9	935	630	93 50	8	June 25	101 50	Paddle passenger steamer between Prince Edward Island, Nova Scotia and New Brunswick.
St. Lawrence	do do	G. W. Howland	do 11	845	675	84 50	8	Aug. 11	92 50	Paddle passenger steamer between Prince Edward Island, Nova Scotia and New Brunswick.
Heather Bell	do do	do	do 12	177	95	17 70	8	do 11	25 70	Paddle passenger steamer between Prince Edward Island, Nova Scotia and New Brunswick.
Elfin	do do	do	do 13	120	34	12 00	8	do 11	20 00	Paddle ferry boat, Charlottetown, P.E.I.
Maid of the Mist	do do	do	do 14	193	116	19 30	8	do 11	27 30	Paddle passenger steamer, Charlottetown, P.E.I.
Mayflower	Pictou, N. S.	D. McCulloch	do 16	136	136	13 60	8	do 28	21 60	Paddle ferry boat, Pictou Harbour, N.S.
Tiger	do	do	do 18	60	28	6 00	5	June 10	11 00	Screw tug boat, Pictou Harbour, N.S.
East Riding	do	do	do 19	85	85	8 50	5	do 23	13 50	Paddle passenger steamer, Pictou, to New Glasgow.
Lion	Wallace, N.S.	Wm. McNab	do 21	10	10	1 00	5	Aug. 15	6 00	Screw tug boat, Wallace River, N.S.
Dragon	Pictou, N.S.	D. McCulloch	do 22	136	136	13 60	8	do 14	21 60	do Pictou Harbour, N.S.
Lady Head	Halifax, N.S.	do	do 23	.....	..... No dues or fees.				.....	Steamer owned by the Dominion Government.
Enterprise	St. John, N.B.	J. R. Ruel	do 27	72	72	7 20	5	Aug. 28	12 20	Paddle ferry boat, Millidgeville, N.B.
Alida	do	do	Sept. 9	64	29	6 40	5	May 28	11 40	Screw tug boat, St. John Harbour, N.B.
Gladiator	Richibucto, N.B	H. Livingston	do 11	70	36	7 00	5	Sept. 9	12 00	Screw tug boat, Richibucto Harbour, N.B.
Fawn	St. John, N.B.	J. R. Ruel	do 13	621	457	62 10	8	do 11	70 10	Paddle passenger steamer, St. John River, N.B.
Onangondy	do	do	do 29	294	86	29 40	8	do 29	37 40	Paddle ferry boat, St. John Harbour.

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Highlander	Fredericton, N.B	A. F. Street	Oct.	9	184	184	18	40	8	Oct. 2	26	40	Stern-wheel passenger steamer on the Upper River St. John.
Ida Whittier	do	do	do	9	250	207	25	00	8	do 2	33	00	Stern-wheel passenger steamer on the Upper River St. John.
Richmond	Grand Dique, C.B	S. Donovan	do	25	44	44	Repairing; not in use.						Side-wheel ferry boat on Lennox Passage, C.B.
Marysville	Fredericton, N.B	A. F. Street	do	10	25	25	2	50	5	Oct. 3	7	50	Paddle ferry boat, Fredericton, N.B.
New Dominion	do	do	do	10	18	10	1	80	5	do 3	6	80	do do do
Forty-Second	do	do	do	11	49	40	4	90	5	Aug. 23	9	90	do do do
Mic Mac	Halifax, N.S	E. M. McDonald	do	14	150	150	15	00	8	Sept. 5	23	00	do Halifax, N.S.
Chibucto	do	do	do	15	108	108	10	80	8	do 5	18	80	do do do
Sir C. Ogle	do	do	do	16	126	126	12	60	8	do 5	20	60	do do do
A. C. Whitney	do	do	do	16	60	60	6	00	5	Oct 15	11	00	Screw tug boat, Halifax Harbour, N.S.
Lady of the Lake	Sydney, C.B	T. T. Brown	do	18	61	32	6	10	5	do 17	11	10	Paddle ferry steamer, Sydney Harbour, N.S.
Neptune	do	C. L. Leonard	do	20	168	98	16	80	8	do 18	24	80	Paddle passenger steamer, Bras d'Or Lake, N.S.
D. G. Ingraham	Cow Bay, C.B	W. W. Brown	do	21	140	84	14	00	8	do 21	22	00	Screw tug boat, Cow Bay, C.B.
L. Boyer	Port Caledonia, C.B	D. McKern	do	21	56	56	5	60	5	do 19	10	60	do Port Caledonia, C.B.
E. M. Cates	Little Glace Bay, C.B	C. H. Rigby	do	22	42	42	4	20	5	do 30	9	20	do Little Glace Bay, C.B.
Unicorn	Sydney, C.B	C. L. Leonard	do	23	46	20	4	60	5	do 21	9	60	do Sydney Harbour, C.B.
Dolphin	Lingan, C.B		do	23	.....	Not employed; not inspected.							do Lingan, C.B.
Albert	St. John, N.B	J. R. Ruel	do	28	174	87	17	40	8	do 27	25	40	Screw tug and freight steamer on the Bay of Fundy.
Fred Clinch	Musquash, N.B.	do	Nov.	5	13	13	1	30	5	Nov. 6	6	30	Screw tug boat, Musquash River, N.B.
J. C. Vail	Gondola Point, N.B	do	do	8	28	14	2	80	5	do 8	7	80	Paddle ferry boat, Gondola Point, N.B.
Bismarck	Fredericton, N.B	A. F. Street	do	9	49	10	4	90	5	Aug. 14	9	90	Paddle tug boat, Fredericton, N.B.
La Have	Bridgewater, N.S	E. M. McDonald	do	15	47	32	4	70	5	Nov. 17	9	70	Screw tug boat, Bridgewater, N.S.
Daisy	Liverpool, N.S	J. Freeman	do	17	47	39	4	70	5	do 14	9	70	do Liverpool, N.S.
Bessie B	St. John, N.B	J. R. Ruel	Dec.	11	39	9	3	90	5	July 7	8	90	do St. John, N.B.
Glindon	do	do	do	15	266	175	26	60	8	Dec. 15	34	60	Screw freight boat, St. John and Boston.

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II.—STATEMENT of the Number of Steam Vessels added to the Dominion during the Year ended the 31st December, 1873, their Class and Horse Power, whether of Wood or Iron, their Gross and Registered Tonnage, where built, and where and how employed.

Name of Vessel.	Horse Power.	Class.	Wood or Iron.	Gross Tonnage.	Registered Tonnage.	Where and when built.	Where and how employed.
Lothair	37	Screw-compound	Wood	351	248	St. Catherines, 1872	Lake Ontario; lumber to U. S.; freight.
City of Sandusky	66	Side-wheel	do	605·94	463	Sandusky, U.S., 1866	Port Stanley and Cleveland, U.S.; passengers and freight.
Alexander	27	Stern-paddle	do	129	77	do 1865	Detroit River and Lake St. Clair; freight.
Thomas	3	Screw	do	31	21	Anderdon, 1872	do do do
Thomas Webb	39	do	do	83	57	Detroit; rebuilt, 1872	do do do
G. F. Wadsworth	9	do	do	20	11	Buffalo, U.S., 1870	Welland Canal, tug.
R. W. Stanly	57	do	do	340	275	Chatham, 1873	Montreal and Chicago; freight.
Ada E. Allen	7	do	do	107	68	Walpole Island, 1872	Detroit River, and Lake St. Clair; freight.
Victoria	9	do	do	88	70	Detroit, U.S., 1870	do do do
Lake Erie	36	do	do	347	267	St. Catherines, 1873	Chicago and Quebec; passengers and freight.
Columbia	35	do	do	360	244	Hamilton, 1873	Montreal and Chicago.
Jennie Griffen	17	do	do	27	27	Unknown register	Welland Canal; tug.
Prussia	38	do	do	374	301	St. Catherines, 1873	Montreal and Chicago; passengers and freight.
Maggie	24	do	do	31	21	Buffalo, U.S., 1873	Port Colborne Harbour; tug.
Maggie R. Mitchell	16	do	do	24	19	Port Robinson, 1873	Welland Canal; tug.
Armenia	35	do	do	365	241	Chatham, 1873	Montreal and Chicago; freight.
Vanderbilt	23	do	do	169	90	do	Georgian Bay and Lake Erie; freight.
California	35	do	do	360	244	Hamilton, 1873	Montreal and Duluth; freight.
Colin Munro	9	do	do	25	20	Port Stanley, 1873	Port Stanley Harbour and Lake Erie; tug.
Isabella	21	do	do	43·33	43·33	Atherly, rebuilt 1873	Lake Simcoe; tug.
Tecumseh	65	do	compound	633	543	Chatham	Port Colborne and Chicago; freight.
Asia	35	do	do	347	265	St. Catherines, 1873	Montreal and Chicago; passengers and freight.
Enterprise	13	do	do	117	117	Lindsay, 1873	Port Perry and Fenelon Falls; freight.
Emma Munson	24	do	do	32	13	Buffalo, U.S., 1873	Cobourg Harbour and Lake Ontario; tug.
Lizzie	15	do	do	24	18	Port Robinson, 1873	Welland Canal and Port Colborne Harbour; tug.
Olivia Gordon	24	do	do	33	33	Buffalo, U.S., 1873	Welland Canal and Port Colborne Harbour; tug.
Hector	33	do	do	43	35	Port Colborne, 1873	Welland Canal and Port Colborne Harbour; tug.

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Almeda Covell		do	do	Not Registered.			Toronto Harbour; dredge tug.
Sovereign	38	do	do	374	301	St. Catherines, 1873	Montreal and Chicago; passengers and freight.
Calabria	60	do	do	391	288	Port Dalhousie, 1873	Hamilton and Montreal; freight.
Albert Wright	24	do	do	29	29	Port Hope, 1873	Port Hope Harbour; tug.
Isaac Butts	23	Side-wheel	do	132	47	Peterborough, 1873	Rice Lake; passengers and freight.
Alma Munro	37	Screw	do	364	289	Port Dalhousie, 1873	Montreal and Chicago; freight.
Kitty Hoyt		do	do	10·89	10·89	Buffalo	Humber River and Toronto; towing.
Saginaw	30	do	do	227	154	Port Huron, U.S., 1873	Windsor and Detroit; G. W. R.; ferry.
Transfer	180	Side-wheel	do	1222	591	Windsor, 1873	do do do
Modoc	15	Screw	do	26	26	Toledo, U.S., 1869	Collins Inlet, Georgian Bay; tug.
Jerome	13	do	do	43	36	Saginaw, U.S., 1872	Collingwood Harbor; tug.
Persia	37	do	do	347	247	St. Catherines, 1873	Montreal and Chicago; 60 passengers and freight.
Jessie Oliver	18	do	do	129	129	Green Bay, U.S., 1870	Fort William and Thunder Bay; L.S. tug; passengers and freight.
Africa	36	do	do	352	265	Kingston	Freight and passenger steamer between Montreal and Chicago.
Adventure	10	do	do	156	108	Dog Lake	Freight steamer on Rideau Canal and St. Lawrence.
Lily	6	do	do	13	8	Kingston	Passenger and tug on Rideau Canal and St. Lawrence.
Saxon	13	do	do	172	109	do	Freight steamer on Bay of Quinte River and lake.
Royal	1	do	do	6	2	Dundee	Freight and passengers, Cornwall and Dundee.
Gatineau	10	do	do	121	85	Brewers Mills	Freight between Ottawa and Cape Vincent.
Welshman	10	do	do	130	90	Kingston	do Rideau Canal, River and Bay of Quinte.
Ivanhoe	7	do	do	62	33	Napanee	Freight on Bay of Quinte, River and Lake.
Bavarian	83·97	Paddle	Iron	427	230	Montreal	Passengers; Montreal and Hamilton.
Grain Elevator, No. 9	17	Screw	do	100	None	do	Grain Elevator, Montreal Harbour.
do No. 6	17	do	do	100	do	do	do do
J. B. A	38·30	Paddle	Wood	124	93	do	Tug, Ottawa and Whitehall.
Bohemian	73·55	do	do	377	174	do	Passengers, Montreal and Prescott.
Active	105·96	Screw	do	281	111	do	Tug, Montreal and Hamilton.
William	53·55	Paddle	do	207	103	Levis	Montreal and Quebec; passenger and tug.
Champion	72·81	do	do	373	127	Montreal	do do do
Caribou	31·28	Screw	do	86	4	do	Ottawa and Chambly; tug.
Riviere du Loup	33·87	Paddle	Iron	40	24	Sorel	Riviere du Loup and Sorel; passenger.
Mary	32·82	do	Wood	60	22	Quebec	Montreal and Quebec; tug.
Lucinda	14·58	Stern-wheel	do	42	21	Sorel	Batiscan and St. Francis; tug.
Manxman	14·58	do	do	42	21	do	Grenville and Ottawa; tug.
Beaver	59·56	Paddle	do	220	104	do	Montreal and Quebec; tug.
Pic Nic	1·59	Screw	do	7	None	St. Hyacinthe	St. Hyacinthe and St. Pie; passenger.
Malford	26·52	Stern-wheel	do			Riviere du Loup	Not employed; tug.
Auralia	36	Screw	do	32	19	Buffalo, U.S., 1870	Quebec Harbour; tug.
St. Lawrence	140	Side-wheel	do	869	468	New York, U.S., 1856	Passenger, Quebec to Rimouski.
Saguenay	175	do	do	1077	654	do	do Chicoutimi.
Ariel	40	Screw	do	126	79	St. John, Newfoundland, 1863	do Mataskouan.
St. Joseph	25	Side-wheel	do	22	6	Levis, 1873	Quebec Harbour; tug.

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II.—STATEMENT of the Number of Steam Vessels added to the Dominion, during the Year ended the 31st December, 1873, their Class and Horse Power, whether of Wood or Iron, their Gross and Registered Tonnage, where built, and where and how employed.—*Continued.*

Name of Vessel.	Horse Power.	Class.	Wood or Iron.	Gross Tonnage.	Registered Tonnage.	Where and when Built.	Where and how Employed.
Rival	66	Side-wheel	Wood	125	36	Quebec, 1873	Towing, Quebec and Montreal.
Shannon	53	Screw	do	64	29	Levis, 1872	Quebec Harbour; tug.
Gatineau	70	Side wheel	Composite.	175	78	Quebec, 1873	Towing, Quebec and Montreal.
Humber	27	Screw	Wood	13	10	Levis 1873	Quebec Harbour; tug.
Resolute	40	do	do	159	40	Quebec, 1873	Towing, Montreal and Pic.
Gipsey	5	Not Classed	do	25	25	Yarmouth, N.S.	Screw tug, Yarmouth N.S.
Norman	24	do	do	47	12	United States	do St. John, N.B.
St. Patrick	21	do	do	52	13	St. John, N.B	do do
Star	57	do	do	461	128	do	Paddle passenger steamer, St. John River.
Andover	40	do	do	185	139	Fredericton, N.B	Stern-wheel passenger steamer on the upper St. John River.
G. D. Hunter	50	do	do	67	13	St. John, N.B	Screw tug-boat, St. John Harbour.
Frank	20	do	do	48	28	Summerside, P.E.I	Paddle ferry-boat, Summerside Harbour, P.E.I.
Heather Bell	34	do	do	177	95	Charlottetown, P.E.I	Paddle passenger steamer, Prince Edward Island.
Elfin	20	do	do	120	34	Georgetown, P.E.I	Paddle ferry-boat, Charlottetown, P.E.I
Maid of the Mist	40	do	do	193	116	United States	do passenger and tug, Charlottetown, P.E.I.
A. C. Whitney	50	do	do	60	60	do	Screw tug-boat, Halifax Harbour.

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III.—STATEMENT of the Number of Steam Vessels lost, broken up, or laid up, as unfit for service, in the Dominion, during the Year ended the 31st December, 1872, their Class and Horse Power, whether of Wood or Iron, their Gross and Registered Tonnage, where built, and where and how lost.

Name of Vessel.	Horse Power.	Class.	Wood or Iron.	Gross Tonnage.	Registered Tonnage.	Where and when built.	Where and how employed
City of Chatham	52	Screw	Wood	361	267	Chatham, 1872	Chicago and Montreal; passengers and freight
Otonabee	23	Side-wheel	do	84	23	Keene, 1853	Rice Lake; freight and towing.
Brantford	60	Screw	do	341	226	St. Catherines, 1850	Hamilton and Montreal; freight.
J. R. Crow	17	do	do	91	77	Chatham, 1870	Rondeau and Pelée Island.
Annie Reid	19	do	do	42	28	Buffalo, 1863	Port Hope Harbour; tug.
Quail	8	Side-wheel	do	34	20	Chatham	Passenger steamer on Bay of Quinte.
St. Lawrence	48	Screw	do	244	107	Oswego	Freight steamer between Quebec and Chicago.
Bavarian	88·97	Paddle	Iron	427	230	Montreal	Montreal and Hamilton; passengers. Burnt on the 5th Nov. last, at Oshawa, Lake Ontario.
Sancho	17	Screw	Wood	39	10	do	Ottawa and Whitehall; tug. Burnt on Lake Champlain.
Louis Renaud	73·53	Paddle	do	336	Not known.	do	Montreal and Cornwall; passengers. Sunk in Sault St. Louis.
Merrett	114·67	Screw	do	1,127	979	Brockville	Freight, Montreal and Pictou.
Riviere du Loup	33·87	Paddle	do	41	25	Sorel	Passenger, Riviere du Loup and Sorel.
Dora	12·50	do	do	45	Not known.	St. Pierre	Tug, Nicolet River.
Advance	140	Side-wheel	do	393	235	Quebec, 1854	Towing, Montreal and Bic.
Lord Elgin	50	do	do	214	44	Not known	do Quebec and Montreal.
Tadousac	73	do	do	142	46	Levis, 1853	do Saguenay River.
Midge	39	do	do	30	22	Quebec, 1855	do Quebec Harbour.
St. Rock	70	do	do	125	79	Levis, 1852	do do and Montreal.
Hochelaga	66	do	do	228	95	Montreal	Ferry; Longueuil and Montreal.
Conqueror	60	Not classed	do	146	56	St. John, N.B	In good order, but not employed; laid up at Pictou, N.S.
Dolphin	15	do	do	Not Registered.		Sydney, C.B	To be broken up this winter.

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IV.—STEAMBOAT ENGINEERS' Examinations and Renewals during the year ended 31st December, 1873, their Class and Place of Residence, the Year of their First Examination and the Number of their Renewals, the Name of the Steamer last Employ, by Whom Examined, the Date of the Certificate, and Amount of Fee.

Name of Engineer.	Class of Engineer.	Class of Assistant Engineer.	Date of 1st Board Examination.	No. of Board Examination.	No. of Renewals.	Date of 1st Local Examination.	No. of Local Examination.	Date of Issue.	Place of Residence.	Name of Steamer last employ.	By whom Examined.	Date of Certificate.	Fee.
Arpin, Louis	Third	.....	1865	2	7	.....	.....	.....	Sorel	None	By the Board	Jan. 1, 1874	1 00
Auger, Edouard	.....	First	1868	3	2	.....	.....	.....	Levis	Tadousac	do	do	1 00
Atkins, William	.....	do	1872	1	2	1871	1	.....	Annapolis, N.S.	Fred. Leavitt	do	do	1 00
Allan, William	.....	Second	1868	1	5	.....	.....	.....	Cornwall	Athenian	do	do	1 00
Alexander, James	Second	.....	1865	1	9	.....	.....	.....	Chateauguay	St. Helen	do	do	1 00
Arpin, Louis	Third	.....	1865	2	8	.....	.....	.....	Sorel	Wood	do	do	1 00
Allen, Robert	First	.....	1865	1	9	.....	.....	.....	Montreal	do	do	do	9 00
Arcand, Jean	.....	First	1867	1	7	..	..	.....	Sorel	Riviere du Loup	do	do	1 00
Allard, François	Third	.....	1869	4	1	.....	.....	.....	Sorel	Montreal	do	do	5 00
Aubin, Michel	do	.....	1860	1	14	.....	.....	.....	Quebec	Fire Fly	do	do	1 00
Anderson, John	do	.....	1868	1	6	.....	.....	.....	Picton	Tiger	do	do	1 00
Allen, Herman	.....	Second	1870	1	4	.....	.....	.....	St. John, N.B.	Hercules	do	do	1 00
Allan, Bradford	.....	do	1873	1	.....	.....	.....	.....	do	Mill	do	do	5 00
Atkinson, William	.....	First	1868	3	3	.....	.....	.....	Fredericton	Maysville	do	do	1 00
Atherton, Thomas C.	.....	Second	1872	1	1	.....	.....	.....	do	None	do	do	1 00
Aird, George H	.....	First	.....	.....	.....	1873	1	May, '73	Windsor	Ontario	Chairman	May 3, 1874	1 00
Aird, George H	.....	do	.....	.....	1	1873	1	July	do	do	do	July 3, 1874	1 00
Ayerst, Charles	.....	Second	1872	2	1	1872	1	.....	Kingston	Norseman	By the Board	Jan. 1, 1874	5 00
Anderson, D.	.....	Third	1873	1	.....	.....	.....	.....	Waubanshene	Maid of Midland	do	do	5 00
Allen, Thomas	.....	do	1873	1	.....	.....	.....	.....	Garden Island	Maud	do	do	5 00
Armstrong, John	.....	Refused	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0 00
Allan, James	.....	Second	1869	1	4	.....	.....	.....	Garden Island	Bay of Quinte	By the Board	Jan. 1, 1874	1 00
Arnold, John	.....	First	1869	2	2	.....	.....	.....	Kingston	Rochester	do	do	1 00
Armstrong, John	.....	Refused	second time.		.....	.....	.....	.....	Garden Island	Glide	.....	.....	5 00
Allen, Andrew	.....	Refused	1873	1	.....	.....	.....	.....	Chatham	W. S. Ireland	.....	.....	0 00
Brown, Archibald	Second	.....	1867	1	6	.....	.....	.....	Kingston	Mary R. Robertson	By the Board	Jan. 1, 1874	1 00
Blette, Pierre, Sen.	Third	.....	1864	1	9	.....	.....	.....	Sorel	Cygne	do	do	1 00
Belson, William	.....	Third	1871	1	2	1871	1	.....	Chatham	Mary Ward	do	do	1 00
Barron, George	Second	.....	1868	1	5	.....	.....	.....	Kingston	Indian	do	do	1 00
Blondin, Moses	Third	.....	1866	1	7	.....	.....	.....	Lachine	East	do	Mar. 1, 1873	1 00
Bargeron, Elize	.....	First	1868	1	5	.....	.....	.....	St. Apoliniere	Helen	do	Jan. 1, 1874	1 00
Bacon, Joseph	.....	Third	.....	.....	.....	1873	1	.....	Berthier	Sorel	X. Befort	Feb. 19, 1873	1 00
Bolduc, Jean	Third	.....	1868	2	2	.....	.....	.....	Levis	Eclipse	By the Board	Jan. 1, 1874	1 00
Bell, J.	do	.....	1869	1	4	.....	.....	.....	Newcastle, N.B.	Sultan	do	do	1 00

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Bergeron, Hondre		Second			4	1872	1		Apoliniere	Fire Fly	J. Samson	April 12, 73	4	00
Banks, James D.	Third		1868	1	5				Toronto	Water Works	By the Board	Jan. 1, 1873	1	00
Bellefuille, Eli	do		1863	1	10				Lachine	St. Lawrence	do	Jan. 1, 1874	3	00
Blomfield, Robert		Second				1873	1		Springfield, N. S.	Lark	J. Taylor	June 7, 1873	1	00
Burk, Michael	Third		1865	1	7				Lindsay	Victoria	By the Board	Jan. 1, 1873	1	00
Bellefeuille, Eli	do		1863	1	11				Montreal	St. Lawrence	do	Jan 1, 1874	1	00
Black, William	Second		1869	3	5				do	Bruno	do	do	5	00
Boneret, Zotique		Third	1873	1					Carillon	St. Anne	do	do	5	00
Bothwell, George		First	1870	2	1				Ormstowne	Dake	do	do	1	00
Blette, Pierre	Third		1864	1	10				Sorel	Cygne	do	do	1	00
Berard, Pierre	do		1866	1	8				do	Beaver	do	do	1	00
Boule, Henri		Third	1871	1	3				do	Hope	do	do	1	00
Bocage, Eli		Second	1872	2	2	1872	1		do	Quebec	do	do	5	00
Bellaire, François		First	1869	1	5				do	Ignatius Taylor	do	do	1	00
Beaudet, Noel	Third		1867	1	7				do	Mack	do	do	1	00
Barbelle, Narcisse		Second	1869	2	3				do	Secret	do	do	5	00
Blais, Joseph		Third	1873	1					Levis	Beaver	do	do	5	00
Boufort, Xavier		Second	1871	2	1				do	City	do	do	1	00
Bolduc, Honore		Third	1860	1	14				do	Samson	do	do	1	00
Bergeron, Honore		Second	1873	1	6	1872	1		St. Poliniere	St. Joseph	do	do	11	00
Blanchette, Desire		Third	1873	1					Quebec	Powerful	do	do	5	00
Beaudette, Lesare		Second	1873	1					do	Orleans	do	do	5	00
Brownrig, John		Third	1873	1					do	Secret	do	do	5	00
Begin, Ferdinand		do	1873	1					Levis	Dauntless	do	do	5	00
Burrows, George		First	1872	2					Halifax	Goliath	do	do	1	00
Boise, Hugh		Second	1869	1	5				St. John	Speck	do	do	5	00
Barton, William		Third	1873	1					do	Rothsay	do	do	5	00
Blomfield, Robert		Second		1		1873	1		Springfield, N.S.	Lark	J. Taylor	Aug. 7, 1873	1	00
Bentley, F. J.		do				1873	1		Kingston	do	do	Sept. 20, '73	5	00
Brennan, John		Third				1873	1		Cornwall	Lake Michigan	W. J. Meneilley	July 23, '73	5	00
Buchanan, James B.		First	1873	1					Keene	Etonabee	By the Board	Jan. 1, 1874	5	00
Black, John R		Second	1872	2		1872	1		St. Catherines	Persia	do	do	5	00
Banks, Erastus		Third	1871	1	2	1871	1		Pt. Dalhousie	Sam Perry	do	do	1	00
Brampton, William		First	1865	3	5				Pt. Robinson	Mineron	do	do	1	00
Brampton, James		do	1869	3	1				do	do	do	do	1	00
Bell, William	Second		1867	2	4				Collingwood	Cumberland	do	do	2	00
Bennett, Alfred		Third	1873	1					St. Catherines	America	do	do	5	00
Beatty, Harvey		do	1873	1					Welland	None	do	do	5	00
Brennan, John		do	1873	1		1873	1		Cornwall	Asia	do	do	5	00
Bonar, John		First	1865	1	9				Belleville	Ellen Jeffers	do	do	1	00
Brown, Walter	Third		1866	1	8				Kingston	Pierrepont	do	do	1	00
Bentley, F. J.		Second	1873	1		1873	1		do	Saxon	do	do	5	00
Bourgen, Moise		Third	1873	1					Ottawa	Raftsman	do	do	5	00
Brown, Abraham J.		do	1873	1					do	Col. Strickland	do	do	5	00
Belson, William		Second	1871	2	1	1871	1		Chatham	Great Western	do	do	5	00
Beane, George	Second		1867	2	5				Windsor	Detroit	do	do	1	00
Banning, S. A.		Third	1873	1					Chatham	None	do	do	5	00
Burrows, Charles		Second	1872	1	1	1872	1		Wallaceburg	Manitoba	do	do	1	00
Batchelor, William		do	1866	2	6				Chatham	Allan	do	do	2	00
Blondin, Moses	Second		1866	2	7				Hamilton	Lake Ontario	do	do	5	00
Black, David A.		Third	1873	1					Goderich	None	do	do	5	00

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IV.—Steamboat Engineers' Examinations and Renewals during the year ended 31st December, 1873, their Class and Place of Residence, the Year of their First Examination and the Number of their Renewals, the Name of the Steamer last Employ, by Whom Examined, the Date of the Certificate, and Amount of Fee.—*Continued.*

Name of Engineer.	Class of Engineer.	Class of Assistant Engineer.	Date of 1st Board Examination.	No. of Board Examination.	No. of Renewals.	Date of 1st Local Examination.	No. of Local Examination.	Date of Issue.	Place of Residence.	Name of Steamer last employ.	By whom Examined.	Date of Certificate.	Fee.
													$ cts
Corrigan, Thomas...	Third ..	.....	1867	1	7	.....	.....	.....	Ottawa	Strickland..... ..	By the Board...	Jan. 1 1874	1 00
Cossette Duncan ..	.....	First ..	1868	1	3	1872	1	.....	Colingwood	Algoma	W J. Meneilley	Dec 20,1872	6 00
Cunningham, Wm ..	.....	do ..	1868	3	1	1872	1	.....	Kingston	Acadia	By the Board..	do 28,1872	1 00
Cathame, ...	Second ..	.....	1866	1	7	.....	.....	.....	Cleveland, N S...	Isaac May	do .	Jan. 1, 1873	1 00
Chesnut, James	.....	Second .	1871	1	2	1873	1	.....	St. Catharines	City of Chatham.	W. J. Meneilley	April 1,1873	1 00
Catellen, Pierre....	Third ..	.....	1860	1	13	.....	.....	....	Levis	Providence . .	By the Board...	Jan. 1, 1873	1 00
Cote, Alphonse	.....	Third ..	1872	1	1	.....	.....	.....	do	Ranger	do ...	do 1, 1874	1 00
Collot, Le n A. D..	Second ..	... .	.....	.....	....	1873	.....	... ..	Quebec	R. Laralez, No. 1 .	J. Samson.....	Feb. 28,1873	1 00
Cameron, James	.....	Second .	.....	.....	4	1871	1	.....	Collingwood	Hotchkiss	Chairman	May 1, 1873	4 00
Cliss pd, Joseph ...	.....	do ..	1870	1	1	1870	1	.....	Goderich	Samuel Norcross..	By the Board..	Jan. 1, 1873	2 00
Chenier, Rapheal ...	Second ..	.....	1860	1	13	.....	.....	.....	Sorel	Messenger	do ..	do	1 00
Cosseboue, J. B	.....	Second .	....	.....	.....	1873	1	.....	Fredricton ...	Ida Whittier	W. M. Smith...	Mar.21 1873	1 00
Carr il, Stephen .. .	First ..	.....	1861	1	13	.. .	.....	.....	Quebec	S S. David ...	By the Board...	Jan. 1, 1874	1 00
Cayen, Joseph ...	Second ..	.....	1860	1	13	.....	.....	.....	Portneuf	Portneuf	do ..	do 1873	1 00
Charbonneau, Thid..	do ...	.....	1860	1	13	.....	.....	.....	Levis	Rescue	do ..	do	1 00
Crisner, Wilson . ..	.....	Third ..	.....	.....	.....	1873	1	.....	Wallaceburg	Hero	W. J. Meneilley	May 13,1873	1 00
Clement, James. ...	.....	Second .	1872	1	1	1871	2	.....	St. Catharines ...	City of Chatham..	do .	J ne 1,1873	5 00
Caron, Louase....	.....	do ..	1871	1	1	1873	1	.....	Levis	Mercy	J. Samson	do 14 1873	1 00
Cayen, Jean.....	Second .	.....	1860	1	13	....	.....	... .	Quebec	Sir John Young ..	By the Board...	Jan. 1, 1873	2 00
Charrier, Leon	.....	Third ..	1869	1	4	.....	....	.....	Aylmer	Monitor	do ..	do	3 00
Champagne, E..(pere)	Second .	.....	1860	1	14	.. ..	.....	.....	Montreal	York	do ..	Jan. 1, 1874	3 00
Champagne, E..(fils)	do .	.....	1868	3	2	.....	.....	.....	do	Engineer	do ..	do	5 00
Chevrier, Raphael...	do ..	....	1861	1	13	.....	....	.....	Sorel	Messenger	do .	do	1 00
Cochrane, George ...	.....	Third ..	1868	1	6	.....	.....	.....	Prescott	M. R. Mathewson.	do ..	do	2 00
Conley, Peter.	.....	do ..	1873	1	....	.....	.....	.....	Montreal	Shickluna.... ...	do ..	do	5 00
Collot, Le n A. L ..	Second .	.....	1873	1	2	1872	1	.....	do	Arctic	do ..	do	7 00
Contvis Jean. ...	....	Second .	1871	1	1	1871	1	.....	Sorel	Mahxman	do ..	do	1 00
Charbonneau, Albert	.....	First ..	1871	2	1	....	.....	.....	do	Three Rivers	do ..	do	1 00
Clement, Charles ..	.....	do ..	1871	1	2	1869	1	.....	do	Tourville	do ..	do	1 00
Charbonneau, Alfred	Second .	.....	1860	1	14	...	.....	... ...	do	Vermont	do ..	do	1 00
Charland, Neue. ...	.....	Second .	1872	2	.....	.....	.....	.....	Drummondville...	None —.....	do ..	do	5 00
Chapdelaine, F.....	First ..	.....	1860	1	14	.....	. ..	.....	Sorel	Quebec	do ..	do	1 00
Charbonneau, X. (fils)	Second .	.....	1860	1	14	.....	.....	.. ....	do	Three Rivers.....	do ..	do	1 00
Chapdelaine, F	.. .. ..	First ..	1870	3	.....	.....	.....	.....	do	Quebec	do ...	do	5 00

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Coran, Cyprian		Third	1873	1					Levis	Levis	do	do	5	00
Cote Alphonse		Second	1871	2					do	Ranger	do	do	5	00
Charland, Victor	Third		1868	3	3				St. John	Elan	do	do	1	00
Cité, Germain		First	1859	1	5				Levis	Napoleon	do	do	1	00
Coté, Augustin	Third		1861	1	13				do	James	do	do	1	00
Coston, Eugene		First	1868	1	6				do	Shannon	do	do	1	00
Coyen, Napoleon		Third	1873	1					St. Orleans	Maid of Orleans	do	do	5	00
Carroll, Stephen	Third		1860	1	14				Quebec	Druid	do	do	1	00
Cayen, Joseph	Second		1860	1	14				Portneuf	Portneuf	do	do	1	00
Carron, Edward		Third	1873	1					Quebec	Shop	do	do	5	00
Cayen, Joseph		Second	1871	1	2				Levis	Levis	do	do	1	00
Carron, Ignace		do	1871	2	1				do	Mersey	do	do	5	00
Cumming, John	Second		1868	1	6				Charlottetown	Princess of Wales	do	do	1	00
Clig, William		First	1871	1	3				Halifax	Henry Hoover	do	do	1	00
Collins, Thomas	Second		1872	1	3				St. John	Duangondy	do	do	1	00
Clark, James		First	1872	1	2				do	Tug Derigo	do	do	1	00
Close Alex		do	1869	1	6				do	Neptune	do	do	2	00
Carrick, John	Second		1869	1	6				do	Sunbury	do	do	1	00
Conning John C		Second	1868	1	6				do	General	do	do	1	00
Caupbell, Mark		do	1873	1					do	Tiger	do	do	5	00
Cox, Charles E	First		1869	2	3				do	Secret	do	do	1	00
Campbell, Robert		Second	1872	1	1				do	Empress	do	do	1	00
Christie, John	Second		1868	1	5				Fredricton	Ida Whittier	do	do	1	00
Casselone J. B		Second	1873	1		1873	1		do	None	do	do	5	00
Cameron, James		do	1873	1	4	1871	1		Collingwood	Fred Hotchkiss	do	do	1	00
Cook, John		Third				1873	1		Windsor	Saginaw	W. J. Meneilley	July 10, 1873	5	00
Cowan Charles		Second	1872	1	4	1872	2		Port Dalhousie	Lincoln	do	do 22, 1873	5	00
Cox John George	Second					1873	1		Strathroy	Raccoon	do	Aug. 7, 1873	5	00
Cockburn, John		First	1871	3		1871	1		Dundas	Tecumseh	By the Board	Jan. 1, 1874	5	00
Cameron, James		Second	1873	1	5	1871	1		Collingwood	Mary Ann	do	do	15	00
Corbier, David E		Third	1873	1					Parry Sound	P. E. McKenat	do	do	5	00
Cowood, J. C		First	1872	3	1	1871	1		Waubashene	Prince Alfred	do	do	5	00
Calcutt, William		do	1870	3	1				St. Catherines	Sovereign	do	do	5	00
Cherry, Elbert	Third		1865	1	9				Merriton	W. T. Robb	do	do	7	00
Chestnutt, James		First	1871	3					St. Catherines	Europe	do	do	5	00
Curlders, Alex		do	1872	1	1				do	Sovereign	do	do	1	00
Cowan, Charles		Second	1872	1	1				do	Deun	do	do	1	00
Crophard, James		do	1872	1	1	1872	1		Bradford	Isabella	do	do	1	00
Cumin, Joseph		Third	1873	1					Pittsburg	Maud	do	do	5	00
Carroll, James		Second	1871	1	1				Kingston	I. M. Mixer	do	do	5	00
Chaffey, George		do	1873	1					do	Bristol	do	do	5	00
Corrigan, T	Third		1867	1	6				Ottawa	Jane	do	do	1	00
Caulfield, E		Second	1872	1	1				Hull	Gov. Launch	do	do	1	00
Collins, A		Third	1873	1					Renfrew	Prince Arthur	do	do	5	00
Crisner, Waron		do	1873	1		1873	1		Wallaceburg	Messenger	do	do	7	00
Corrin, John F		Second	1871	2					Lindsay	do	do	do	1	00
Crossley, Levi N		do	1873	1					Collingwood	George Watson	do	do	5	00
Davis, Simon		do	1871	1	2				Kingston	Simon Davis	do	Jan. 1, 1873	1	00
Dewsberry, Fred	Second		1862	1	11				do	Bristol		do	1	00
Dulac, William		Third				1873	1		Berthier	Star	X. Befort	Feb. 19, 1873	1	00
Derry, William	Third		1869	2	2				Kingston	Pierrepont	By the Board	Jan. 1, 1873	1	00

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Name of Engineer.	Class of Engineer.	Class of Assistant Engineer.	Date of 1st Board Examination.	No. of Board Examination.	No. of Renewals.	Date of 1st Local Examination.	No. of Local Examination.	Date of Issue.	Place of Residence.	Name of Steamer last employ.	By whom Examined.	Date of Certificate.	Fee.
													$ cts
Drysdale, Thomas	.....	Second	1871	1	2	.....	.....	.....	Chateauguay	Merritt	By the Board	Jan. 1, 1873	1 00
Dupere, Rennie	Second	.....	1860	1	13	.....	.....	.....	St. Nicholas	St. Croix	do	do	2 00
Donnelly, John	.....	Third	.....	.....	.....	1873	1	.....	Garden Island	America	J. Taylor	May 1, 1873	1 00
Donnelly John	.....	do	....	.....	1	1873	1	.....	do	do	do	July 1, 1873	1 00
Demers, Joseph	.....	do	1870	1	2	1870	1	.....	Aylmer	Jessie Cassels	By the Board	Jan. 1, 1874	1 00
D'Aurst, Isadore	.....	do	1870	1	1	1873	1	.....	Pt. Claire	Elevator No. 3	do	do	6 00
Ducette, Joncelle	.....	do	1873	1	....	.....	....	.....	Sorel	John	do	do	5 00
Dumas, Laurent	Second	.....	1860	1	13	.....	.....	.....	do	Chambly	do	do	1 00
Dunn, Peter	First	.....	1865	1	8	.....	.....	.....	do	Montreal	do	do	1 00
Ducharme, Alexis	Third	.....	1867	1	7	.....	.....	.....	do	Fairy	do	do	1 00
Ducap, Mathias	Second	.....	1864	1	10	.....	.....	.....	do	Cultivator	do	do	1 00
Dumas, Alexis	....	Second	1873	1	1	1873	1	.....	do	Montreal	do	do	6 00
Dulac, Elie	.....	do	1869	2	3	1869	1	.....	do	L'Assomption	do	do	1 00
Desjardin, Eusebe	Second	.....	1860	1	14	.....	.....	.....	do	Lincoln	do	do	1 00
Denis, Edouard	Third	.....	1865	1	9	.....	.....	.....	do	Berthier	do	do	1 00
Demer, Ferdinand	.....	First	1870	3	1	.....	.....	.....	Quebec	Saguenay	do	do	1 00
Dupere, Demas	Second	.....	1860	1	14	.....	.....	.....	Levis	Lord Elgin	do	do	1 00
Delisle, Simeon	do	.....	1864	1	10	.....	.....	.....	do	Tug, Quebec	do	do	1 00
Davidson, William	.....	First	1873	2	2	1872	1	.....	Quebec	Miramichi	do	do	5 00
Dechane, Josner	.....	Third	1873	1	.....	.....	.....	.....	St. Nicholas	National	do	do	5 00
Dion, François	.....	First	1869	1	5	.....	.....	.....	Levis	Shop	do	do	6 00
Desrocher Louis	.....	do	1869	2	3	.....	.....	.....	do	Champion	do	do	2 00
Dupere, Honore	Second	.....	1860	1	14	.....	.....	.....	do	Resolute	do	do	1 00
Drysdale, Walter	.....	Second	1873	1	....	.....	.....	.....	Quebec	Northern	do	do	5 00
Dick, George	....	Firs	1871	2	3	.....	.....	.....	Chatham, L.P.	St. Lawrence	do	do	5 00
Donovan, Daniel	.....	Second	1872	1	2	.....	.....	.....	St. John	Fred. Clinch	do	do	1 00
Donnelly, John	.....	Third	.....	.....	2	1873	1	.....	Garden Island	America	J. Taylor	Sept. 1,'73	1 00
Dunn, Charles G.	.....	do	.....	.....	.....	1873	1	.....	Toronto	Highlander	W. J. Meneilley	July 7,'74	5 00
Daly, William	.....	do	1873	1	.....	.....	.....	.....	Dundas	Shop	By the Board	Jan. 1,'74	5 00
Drew, Nathaniel	Second	.....	1869	3	2	1869	1	.....	Montreal	York	do	do	1 00
Davidson, John	.....	Third	1872	2	.....	.....	.....	.....	St. Catharines	Alma Munro	do	do	5 00
Dewey, Thos	.....	Second	1872	2	.....	.....	....	.....	do	Calabria	do	do	5 00
Dougherty, James	.....	Third	1872	1	1	.....	.....	.....	do	do	do	do	1 00
Davis, James	First	....	1861	1	13	.....	.....	.....	Kingston	Prince Alfred	do	do	1 00

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Berry, Wm.	Third		1869	2	2				do	Maud	do	do	1	00
Donnelly, John		Third	1873	1	2	1873	1		Garden Island	America	do	do	5	00
Doran, John	Second		1860	2	12				Kingston	Europe	do	do	1	00
Doran, William		Second	1872	1	1				do	Scotia	do	do	1	00
Douzer, Charles	Third		1869	1	6				Belleville	Prince Edward	do	do	1	00
Dewsberry, Fred'k	Second		1862	2	10				Kingston	Bristol	do	do	1	00
Dungan, John	do		1862	1	12				Prescott	Prince Arthur	do	do	1	00
Dungan, James	do		1863	1	11				do	Matawawa	do	do	1	00
Devlin, J		Third	1872	1	1				Ottawa	Parliam't Buildings	do	do	1	00
Demers, J		Second	1870	2	2	1870	1		Aylmer	Monitor	do	do	5	00
Davis, Violet	Second		1869	2	3				Windsor	Amazon	do	do	1	00
Duval, Francis		Third	1873	1					Sarnia	Saginaw	do	do	5	00
Drysdale, Thomas		First	1871	2	1				Chateauguay	Canada	do	do	5	00
Elliot, Thomas	Third		1863	1	10				Kingston	Bruno	do	do	1	00
Evans, Richard		Second	1873	1					Guelph	Wm. Hall	do	do	5	00
Ellanburz, Charles		Third				1873	1		Sorel	Boston	X. Befort	Mar. 28,'73	1	00
Ecroyd, John R.	First		1870	2	1				Montreal	No boat	By the Board	Jan. 1,'74	1	00
Eddy, Alexander	do		1869	2	3				St. John, N.B.	City of St. John	do	do	1	00
Elliotte, William	Second		1868	1	5				Fredericton	Andoon	do	do	1	00
Ellison, John, jun		Second				1873	1		Port Stanley	Colin Munro	W. J. Meneilley	Aug. 29,'73	5	00
Evans, Richard		do	1873	1	1				Guelph	Wm. Hall	By the Board	Jan. 1,'74	1	00
Elliot, Thomas	Third		1862	1	11				Kingston	Stanley	do	do	1	00
Ellison, John, jun		do	1873	1		1873	1		Port Stanley	Colin Munro	do	do	5	00
Edmgton, William		First	1868	1	5				Keene	Isaac Butts	do	do	2	00
Francombe, John	First		1862	1					Windsor	Mary R. Robertson	do	Jan. 1,'73	1	00
Filteau, Benjamin	do		1860	1					Levis	M. Stevenson	do	do	1	00
Faulds, Wm. F		do	1869	2	2	1870	1		St. Catharines	Europe	do	do	1	00
Filteau, Victor	Second		1860	1	13				Levis	Boiler	do	do	1	00
Filteau, Octave	do		1860	1	13				do	Secret	do	do	1	00
Frost, Andrew		do				1873	1		St. John, N. B	Sleepy Hollow	Wm. M. Smith	May 17,'73	1	00
Filteau, Joseph	First		1860	1	13				Levis	St. Lawrence	By the Board	Jan. 1,'73	1	00
Freshet, William	Third		1865	1	9				Montreal	Bavarian	do	do	6	00
Fournier, William		Third	1873	1					do	None	do	Jan. 1,'74	5	00
Francour, Edward		First	1868	1	6				do	Corsican	do	do	1	00
Frontignay, John		Second	1869	2	3	1869	1		Sorel	Union	do	do	1	00
Fortin, Jean	Third		1860	1	14				do	J. Taylor	do	do	1	00
Flanard, Michael	do		1869	2	3				Levis	Secret	do	do	1	00
Fortier, Michel		First	1869	3	2				Buckland	Margaret	do	do	1	00
Filteau, Gorge		Third	1873	1					Levis	Royal	do	do	5	00
Frechette, Michel	Second		1860	1	14				St. Nicholas	Powerful	do	do	1	00
Filteau, B	First		1360	1	14				Levis	M. Stevenson	do	do	1	00
Filteau, Victor	Second		1860	1	14				do	None	do	do	1	00
Filteau, Joseph	First		1860	1	14				do	St. Lawrence	do	do	1	00
Fletcher, Samuel		First	1871	3					St. Catharines	America	do	do	5	00
Fletcher, W. S.	Second		1864	4	6				do do	City of Dresden	do	do	1	00
Faulds, Wm. F		do	1870	3	1				do do	Dominion	do	do	1	00
Fairbairn, Richard	Third		1869	4	1				do do	Sovereign	do	do	1	00
Flannagan, Patrick		do	1869	3	2				Kingston	Water Lily	do	do	5	00
Francomb, John	First		1862	1	12				Windsor	W. P. Clinton	do	do	1	00
Gibb, Thomas	Second		1860	1	13				Quebec	Providence	do	do	1	00
Ginac, Alfred	Third		1860	1	13				Sorel	Canada Tug	do	do	1	00

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IV.—STEAMBOAT ENGINEERS' Examinations and Renewals during the year ended 31st December, 1873, their Class and Place of Residence, the Year of their First Examination and the Number of their Renewals, the Name of the Steamer last Employ, by Whom Examined, the Date of the Certificate, and Amount of Fee.—*Continued.*

Name of Engineer.	Class of Engineer.	Class of Assistant Engineer.	Date of 1st Board Examination.	No. of Board Examination.	No. of Renewals.	Date of 1st Local Examination.	No. of Local Examination.	Date of Issue.	Place of Residence.	Name of Steamer last Employ.	By whom examined.	Date of Certificate.	Fee.
													$ cts
Goyette, Charles	.....	Second	1858	1	5	.....	.....	.....	Kingston	Indian	By the Board	Jan. 1,'74	1 00
Goslin, Hubert	.....	Third	....	.....	.....	1873	1	.....	Sorel	Terrebonne	X. Lefort	do	1 00
Gourlay, John M	.....	Second	....	.....	.....	1873	1	....	Toronto	Levey & Co	W. J. Meneilley	April 1,'73	1 00
Gamache, Gabriel	.....	do	....	.....	4	1872	1	.....	Quebec	Steel Factory	J. Samson	do 28,'73	5 00
Gilmour, William	.....	do	....	.....	2	1872	1	.....	Toronto	Advance	W. J. Meneilley	May 12,'73	2 00
Gosse, Valley	.....	do	....	.....	.....	1873	1	.....	Halifax	Mic Mac	Wm. M. Smith	June 7,'73	1 00
Gosse, Hector	.....	do	....	.....	.....	1873	1	.....	Amherstburg	Quail	W. J. Meneilley	April 10,'73	1 00
Gauthier, Alexander	Second	.....	1855	1	8	.....	.....	.....	Aylmer	Monitor	By the Board	Jan 1,'73	1 00
Gariepy, Aimé	do	.....	1869	1	14	.....	.....	.....	Montreal	Longueuil	do	Jan. 1,'74	3 00
Gauthier, X	do	.....	1868	1	6	.....	.....	.....	do	Plover	do	do	6 00
Guilbault, Nazaire	.....	First	1870	2	2	.....	.....	.....	Sorel	Bismark	do	do	1 00
Gendron, Charles	.....	do	1865	2	7	.....	.....	.....	do	Debsle	do	do	1 00
Gauthier, Joseph	.....	Second	1873	.....	.....	.....	.....	.....	do	Hope	do	do	5 00
Gouin, Leander	.....	do	1872	2	.....	.....	.....	.....	do	Victoria	do	do	5 00
Gerard, Olivier	.....	do	1872	2	2	1872	1	.....	do	John	do	do	5 00
Gendron, J. B	Third	.....	1865	1	8	.....	.....	.....	do	Sorel	do	do	1 00
Gauthier, François	Second	.....	1850	1	14	.....	.....	.....	do	Seneca	do	do	2 00
Gauthier, Louis	Third	.....	1869	1	14	.....	.....	.....	St. Nicholas	New Dominion	do	do	1 00
Gauthier, Michel	do	.....	1850	1	14	.....	.....	.....	Sorel	William	do	do	1 00
Guilbault, Pamphile	.....	Third	1872	1	2	.....	.....	.....	Levis	Conqueror	do	do	1 00
Gauthier, Xavier	Second	....	1850	1	14	.....	.....	.....	St Antoine	Arabia	do	do	1 00
Gilbert, Philip	.....	Third	1867	1	7	.....	.....	.....	Levis	Flora	do	do	1 00
Gasty, Andrew	.....	third	1873	1	.....	.....	.....	.....	Halifax	Mic Mac	do	do	5 00
Gray, William	.....	do	1873	1	.....	.....	.....	.....	St. John, N. B	Victor	do	do	5 00
Green, Duncan	First	.....	1859	2	3	.....	.....	.....	do	May Queen	By the Board	Jan 1,'74	1 00
Gill, Justice	.....	First	1868	3	3	.....	.....	.....	Fredericton	Forty-Second	do	do	1 00
Gill, J. N	.....	do	1868	3	3	.....	.....	.....	do	New Dominion	do	do	1 00
Gill, S. D	.....	do	1868	1	5	.....	.....	.....	do	None	do	do	1 00
Gawley, Hector	.....	Second	.....	.....	.....	1873	1	.....	Amherstburg	Thomas	W. J. Meneilley	June 10,'73	5 00
Gillie, James	.....	First	1868	2	4	1873	1	.....	Kingston	Enterprise	Chairman	July 23,'73	1 00
Griffin, John T	.....	Third	.....	.....	.....	1873	1	.....	Amherstburg	Transfer	W. J. Meneilley	Aug. 18,'73	5 00
Good, Thomas	.....	Second	1871	2	1	.....	.....	.....	Port Colborne	S. Nuton	By the Board	Jan. 1,'74	5 00
Gillie, James	.....	First	1868	3	5	1873	1	.....	Garden Island	W. T. Robb	do	do	5 00
Goyette, C	.....	do	1868	2	4	.....	.....	.....	Kingston	.....	do	do	5 00

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Gallivan, John	Third		1867	1	7				do	Grenville	do		do	1 00
Gallivan, John	do		1865	1	8				do	Elevator	do		do	1 00
Goulet, Ambrose	Second		1863	2	8				Aylmer	Monitor	do		do	1 00
Gowan, J. W		Second	1872	2					Windsor	Union	do		do	5 00
Higgins, Harris	Third		1873	1	3	1873	1		Prescott	Canada	do		Jan. 1,73	8 00
Hamilton, James		Second				1873	1		Quebec	Tigress	J. Samson		do	1 00
Hunter, Robert		Third				1873	1		Wallaceburg	Hero	W. J. Meneilley		April 1,73	1 00
Hardy, Joseph	Third		1865	1	8				Kingston	Emerald	By the Board		Jan. 1,73	1 00
Hay, John	do		1867	1	6				Toronto	None	do		do	1 00
Hunter, Alex		Third				1873	1		Hamilton	do	W. J. Meneilley		May 6,73	1 00
Hutchinson, William	Second		1865	1	8				Montreal	Unknown	By the Board		July 5,73	6 00
Haywood, John		Third				1873	1		Kingston	Europe	J. Taylor		June 14,73	1 00
Howard, John	Second		1868	1	5				Sackets Harbour	Abyssinian	By the Board		Jan. 1,73	1 00
Hamlin, Zepherin		First	1870	3	1				Montreal	Passport	do		Jan. 1,74	6 00
Halle, Joseph		Third	1873	1					do	L'Aigle	do		do	5 00
Hanault, Pierre		do	1873	1					do	Elevator	do		do	5 00
Hebert, Paul		do	1873	1	2	1873	1		do	Elevator No. 5	do		do	7 00
Hodgson, J. P		do	1873	1					Como	New York	do		do	5 00
Hanault, Xavier		do	1873	1	2	1873	1		St. Cecile	Elevator No. 8	do		do	7 00
Hutchinson, William	Second		1865	1	7				Montreal	Shickluna	do		do	1 00
Humphrey, James		Third	1873	1					do	Champion	do		do	5 00
Hamel, Alfred		do	1873	1					St. Croix	Hero	do		do	5 00
Hunare, Hilaric		Second	1872	2					Champlain	Eclipse	do		do	5 00
Hicks, Henry		Third	1873	1					Strone	Druid	do		do	5 00
Hamilton, John	Third		1873	1	3	1873	1		Quebec	Picton	do		do	8 00
Haviland, Thomas		First	1871	1	3				Chatham	Teazer	do		do	2 00
Hadlow, George		do	1868	1	6				St. John	Busy Bee	do		do	1 00
Haly, John		Second	1871	1	3				do	Speck	do		do	2 00
Hathaway, H. A.	First		1868	1	6				do	Empress	do		do	1 00
Haywood, John		Third				1873	1		Kingston	Norman	J. Taylor		Aug. 14,73	1 00
Hart, Robert		do				1873	1		Toronto	Avon, (England)	W. J. Meneilley		July 16,73	5 00
Hunter, Robert		do			2	1873	1		Wallaceburg	Union	do		Aug. 1,73	2 00
Holmes, T. C.		do				1873	1		Chatham	None	do		Sep. 27,73	5 00
Heywood, John		do			1	1873	1		Kingston	Norman	J. Taylor		Oct. 14,73	1 00
Hickey, Thomas	Third		1868	1	1				do	Lake Erie	By the Board		Jan. 1,74	1 00
Hugo, T. W	do		1869	4	1				do	Michigan	do		do	1 00
Hurst, William		First	1870	2	2				do	Robert Anglin	do		do	1 00
Hearn, John		Second	1872	1	1				do	Rose	do		do	1 00
Heywood, John		do	1873	1	1	1873	1		do	Norman	do		do	5 00
Hamilton, Alex		Third	1872	1	1	1872	1		Newboro'	Elswood	do		do	1 00
Hickey, James	Second		1862	1	11				Garden Island	William	do		do	1 00
Hazlett, William		Third	1873	1					do	Wellington	do		do	5 00
Hepburn, R		Second	1872	2	1	1872	1		Kingston	Rose	do		do	1 00
Hallada		First	1869	3	1	1869	1		Prescott	Alliance	do		do	5 00
Higgins, James		Third	1873	1					Pembroke	John Egan	do		do	5 00
Holmes, T. C.		do	1873	1		1873	1		Chatham	None	do		do	5 00
Hunter, Robert		do	1873	1	1	1873	1		Wallaceburg	Hero	do		do	6 00
Head, Thomas	Second		1862	1	12				Windsor	W. R. Clinton	do		do	1 00
Horgan, Thomas		Third	1873	1					Ancaster	Lily Kerr	do		do	5 00
Hopkins, William	Third		1866	1	8				Lindsay	Anglo-Saxon	do		do	1 00
Hunter, Walter	do		1865	1	9				Wallaceburg	Hero	do		do	1 00

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IV.—STEAMBOAT ENGINEERS' Examinations and Renewals during the year ended 31st December, 1873, their Class and Place of Residence, the Year of their First Examination and the Number of their Renewals, the Name of the Steamer last Employ, by Whom Examined, the Date of the Certificate, and amount of Fee.— *Continued.*

Name of Engineer.	Class of Engineer.	Class of Assistant Engineer.	Date of 1st Board Examination.	No. of Board Examination.	No. of Renewals.	Date of 1st Local Examination.	No. of Local Examination.	Date of Issue.	Place of Residence.	Name of Steamers last Employ.	By whom Examined.	Date of Certificate.	Fee.
													$ cts
Jeffers, L. W.	Second		1865	1	9				Kingston	Rochester	By the Board	Jan. 1,74	1 00
Jameson, Isaac		First	1869	1	4				do	Lady Franklin	do	do	1 00
Johnson, Gilbert		Second	1872	1	2	1871	3		do	Lothair	do	do	3 00
Jardin Patrick		do	1869	1	4				Point Dufort	Prince Arthur	do	do	1 00
Jacques Edward		First				1873	1		Saginaw	Quail	W. J. Meneilley	April 5,73	1 00
Jervais, Michel	Second		1860	1	14				Sorel	Montreal	By the Board	Jan. 1,74	1 00
Jinkings, Evans		Second				1873	1		Saginaw	Jerome	W. J. Meneilley	July 16,74	5 00
Johnston, Joseph		First	1871	3		1871	1		Belle Ewart	George Watson	By the Board	Jan. 1,74	5 00
Johnston, James	Second		1866	1	7				Kingston	Norseman	do	do	1 00
Johnston, Gilbert		First	1871	3					Garden Island	Lake Erie	do	do	5 00
Jones, William H.	Third		1862	1	11				St Catharines	Shop	do	do	1 00
Johnson, George		First	1868	3	3				Belleville	Jessie Abbey	do	do	5 00
Jameson, Isaac		do	1869	1	4				Kingston	Franklin	do	do	1 00
Johnston, William	Second		1864	2	8				Garden Island	None	do	do	1 00
Kerr, David	Third		1872	1	2				Windsor	Canada	W. J. Meneilley	April 1,73	1 00
Kennedy, John		Second				1873	1		Toronto	Kitty Hoyt	Chairman	May 24,73	1 00
Kennedy, William	Third		1866	1	7				do	John S. Clark	By the Board	Jan. 1,73	1 00
Kerr, David	do		1872	1	2	1872	3		Windsor	Transit	W. J. Meneilley	June 1,73	5 00
Kennedy, William		Second	1873	1					St. John, N.B.	Shop	By the Board	Jan. 1,74	5 00
Kerr, Atcheson, sen.	First		1860	1	14				Orillia	Emily May	do	do	1 00
Kerr, Atcheson, jun.		Second	1872	1	2	1872	1		do	Isabella	do	do	1 00
Keat, George	Third		1872	2	3	1871	1		Lindsay	Vanderbilt	do	do	5 00
Kilcauley, Patrick		Second	1871	2	2				Kingston	John Bright	do	do	1 00
Kenny, Philip		do	1871	2	1	1871	1		do	Kitty Friel	do	do	5 00
Kirkpatrick, J	Second		1865	1	9				Cobden	Jessie Gould	do	do	1 00
Kelly, William		First	1866	2	6				Garden Island	Wellington	do	do	1 00
Kennedy, William		Second	1872	2					do	Dromedary	do	do	5 00
Kaney, T		do	1869	2	3	1869	1		Pembroke	Forest Queen	do	do	1 00
Kerr, Adam		First	1868	3	4				Point Edward	International	do	do	5 00
Kerr, David	Third		1872	2		1872	2		Windsor	Great Western	do	do	5 00
Lavalliot François	do		1860	1	13				St. George, Windsor	Apametaguager	do	Jan. 1,73	1 00
Lacroix, Urbain	Second		1860	1	13				Levis	Ferry Levis	do	do	1 00
Leslie, James H.	First		1860	1	13				Montreal	Louis Renaud	do	do	1 00
Leclere, William	Third		1868	1	5				Sorel	Dandy	do	do	1 00

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Lapointe, Michel		First	1868	1	5	1873	1		Levis	Express	J. Samson	do	1	00
Laurie, William	Third		1869	1	4				Sorel	No employ	By the Board	do	1	00
Lapointe, Frank		Second	1871	2	1				Toronto	Prince Alfred	do	do	1	00
Lemieux, Joseph		First	1871	1	2	1873	1		Levis	S.S. Georgian	J. Samson	April 12,'73	2	00
Lachame, Alfred		Third				1873	1		St. Charles	do	do	April 28,'73	1	00
Lalonde, Alphonse		Second	1871	1	1				Montreal	Aid	By the Board	Jan. 28,'73	1	00
Lyons, James E		do				1873	1		Wallaceburg	Philo Bennet	W. J. Meneilley	May 13,'73	1	00
Little, Richard		Third				1873	1		do	Messenger	do	May 12,'73	1	00
Lavallier, François		do				1873	1		Levis	Napoleon	J. Samson	June 17,'73	5	00
Lapointe Frank		Second	1871	2	2				Toronto	Maid of Midland	By the Board	Aug. 21,'73	1	00
Lacerte, Roderick		do	1873	1					Dundee	Royal	do	Jan. 1,'74	5	00
Lefevre, Isidore	Third		1867	1	7				Carillon	Carillon	do	do	1	00
Leitch, Alex	First		1866	1	8				Montreal	Picton	do	do	1	00
Langevin, Pierre		Second	1872	1	1				Champlain	M. K. D	do	do	1	00
Ledegy, Dominique		Third	1873	1					Montreal	St. Catherine	do	do	5	00
Lachance, Joseph		First	1870	3					Sorel	Montreal	do	do	5	00
Lemai, Isa	Third		1867	1	7				Lotbinière	Banshee	do	do	1	00
Lalonde, Alphonse		First	1871	3					Rigo	Matilda	do	do	5	00
Lealie, James H	First		1860	2	12				Montreal	Merritt	do	do	1	00
Leclere, William	Third		1868	1	6				Sorel	Abernethy	do	do	1	00
Lefaivre, François	do		1865	1	9				do	Victoria	do	do	1	00
Larivierre, Pierre	Second		1860	1	14				Montreal	Maid of Canada	do	do	1	00
Lafleche, Augustin	do		1860	1	14				Sorel	Terrebonne	do	do	1	00
Lemerville, Achille		First	1870	1	2	1871	1		Three Rivers	St. Nicholas	do	do	1	00
Leblanc, Pierre	Third		1864	1	10				St. Gregoire	Lysander	do	do	1	00
Lapine, Natile		Second	1869	1	4				Carriella	Canada	do	do	2	00
Lafleur, Jean B		First	1869	1	4				Sorel	Lizzie	do	do	1	00
Lamontagne, N		Second	1871	2	1	1871			do	None	do	do	1	00
Lacombe, Louis	Third		1860	1	14				do	Albert	do	do	1	00
Lusier, Raphael	Second		1860	1	14				do	Fire Fly	do	do	1	00
Lavallu, David		Third	1873	1					do	Champion	do	do	5	00
Lapointe, Eusebre		Second	1872	2					Point Levis	Contest	do	do	5	00
Langlois, Olivier		First	1869	3	2				do	E I Dorr	do	do	1	00
Lahay François	Second		1860	1	14				do	St. George	do	do	1	00
Lamotte, Louis	do		1860	1	14				St. Nicholas	National	do	do	1	00
Lacroix, Louis	Third		1860	1	14				Three Rivers	Arthur	do	do	1	00
Lacroix, Pierre	do		1860	1	14				do	Monasville	do	do	1	00
Lord, Rennie	do		1867	1	7				Lotbinière	Royal	do	do	1	00
Lapointe, Michel		First	1868	1	5				Levis	Express	do	do	1	00
Lafleur, X	Second		1860	1	14				St. Antoine	Hero	do	do	1	00
Lapointe, Jean B		Second	1872	2					Levis	Fairy	do	do	5	00
Laguenesse, N		Third	1873	1					Isle Orleans	Anglesia	do	do	5	00
Lamotte, Naziare		First	1869	2	3				St. Antoine	Tail	do	do	1	00
Lapointe, Joseph		do	1868	1	6				Levis	Dauntless	do	do	1	00
Lacroix, Trefly	Second		1860	1	14				St. Ann	Etoille	do	do	1	00
Lavallier, François		Third	1873	1		1873	1		Levis	Police Steamer	do	do	5	00
Langlois, Pierre		First	1871	3					Quebec	Stevenson	do	do	5	00
Lamotte, Ubald	Third		1867	1	7				St. Antoine	Gatineau	do	do	1	00
Lapointe, Joseph	Second		1860	1	14				Levis	Reindeer	do	do	2	00
Leonard, Edward		Second	1873	1					St. John, N. B	City of St. John	do	do	5	00
Lewis, Frank		do				1873	1		Thorold	Scratcherd	W. J. Meneilley	July 10,'73	5	00

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IV.—STEAMBOAT ENGINEERS' Examinations and Renewals during the year ended 31st December, 1873, their Class and Place of Residence, the Year of their First Examination and the Number of their Renewals, the Name of the Steamer last Employ, by Whom Examined, the Date of the Certificate, and Amount of Fee.—*Continued.*

Name of Engineer.	Class of Engineer.	Class of Assistant Engineer.	Date of 1st Board Examination.	No. of Board Examination.	No. of Renewals.	Date of 1st Local Examination.	No. of Local Examination.	Date of Issue.	Place of Residence.	Name of Steamer last employ.	By whom Examined	Date of Certificate.	Fee.
													$ cts
Little, Richard		Third			1	1873	1		Wallaceburg	Argyle	W. J. Meneilley	Sept. 27,'74	5 00
Lockerbie, Wm		First	1872	2		1872	1		Collingwood	Chicora	By the Board	Jan. 1,'74	5 00
Lovely, Edward		Third	1873	1					do	Wales	do	do	5 00
Linter, Charles	Second		1865	1	8				St. Catharines	Persia	do	do	1 00
Lawrence, Peter		Second	1870	2	4	1871	1		Welland	Modoc	do	do	1 00
Leach, Robert		do	1872	1	2				do	Ocean	do	do	1 00
Lawrence, Zacharias		do	1873	1					do	S. D. Colwell	do	do	5 00
Leetch, Thos		Third	1872	2					do	Ireland	do	do	5 00
Leny, Edward		do	1872	1	1				Port Dalhousie	Sam Perry	do	do	1 00
Lesney, Walter		Second	1871	2	2				Port Robinson	William Ross	do	do	1 00
Leclaire, David		Third	1872	1					Lachine	York	do	do	5 00
Long, John		Second	1872	2					Ottawa	H. H. Whitney	do	do	5 00
Little Richard		Third	1873	1		1873	1		Wallaceburg	Argyle	do	do	5 00
McCallum, John		First	1871	1	2				Goderich	Seymour	do	Jan. 1,'73	1 00
McManus, Pat'k F.	Second		1865	1	8				Bath	York	do	do	1 00
McArthur, James		Third	1869	1	4				Kingston	Bristol	do	do	1 00
McIntosh James		Second			11	1870	1		Toronto	Transit	Chairman	Mar. 4,'73	12 00
McMaugh, Wm. J		do	1871	1		1873	1		St. Catharines	Ocean	W. J. Meneilley	April 1,'73	1 00
McCaul, Robert	Second		1867	2	4				Kingston	China	by the Board	Jan. 1,'73	1 00
McGachy, Henry		First				1873	1		St. John, N. B.	David Weston	Wm. M. Smith.	June 4,'73	1 00
Macdonald, Alex	Third				Endorsed.						By the Board	Jan. 1,'73	1 00
McDonald, Alex	do		1869	3	1				Windsor	Great Western	W. J. Meneilley	June, 1,'73	5 00
McCaffrey, Thomas	Second		1868	1	5				Cornwall	Athenian	By the Board	Jan. 1,'73	1 00
McReady, William		Third				1873	1		Garden Island	H. A. Calvin	J. Taylor.	July, 26,'73	5 00
Macdonald, George		do	1873	1					Ottawa	Enterprise	By the Board	Jan. 1,'74	5 00
McRoberts, Alex	Second		1860	1	14				Chateauguay	Dagmar	do	do	1 00
McCaw, John	Third		1872	1	2	1872	1		Ottawa	Tourville	do	do	5 00
McLean, John		First	1872	2					Levis	Ariel	do	do	10 00
McDonald, Angus		Third	1870	1	3				Pictou	Dragon	do	do	1 00
McDonald, John		First	1871	1	3	1870	1		Chatham, N. B.	New Era	do	do	1 00
McKane, David	Third		1868	1	6				St. John, N. B.	Sunbury	do	do	1 00
McMurray, Jas. B.		First	1872	1	1				do do	Lincoln	do	do	1 00
McGachy, Henry		do	1873	2	4	1873	1		do do	Enterprise	do	do	9 00
McMurray, Alex	Second		1868	1	6				do do	Derigo	do	do	1 00

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McAloer, Edward	First		1871	1	3				do do	Nino	do	do	1	00
McMurray, John S.	First		1868	1	6				do do	Ferry Steamer	do	do	1	00
McAloar, Michael	First		1868	1	6				do do	Mist	do	do	1	00
McKenzie, Wm	Third		1873	1					do do	Secret	do	do	5	00
McMillan, Donald	First					1873	1		Windsor, Ont.	Great Western	W. J. Meneilley	July, 10,'7	5	00
McReady, James	Third					1873	1		St. Catharines	Sovereign	do	Aug. 7,'7	5	00
McDonald, Charles	do					1873	1		Dundas	America	do	Aug. 13,'7	5	00
McArthur James	Second		1869	2	3				Kingston	Bristol	By the Board	Jan. 1,'74	5	00
McMaugh, Wm. J.	First		1871	3		1873	1		St. Catharines	Ocean	do	do	5	00
McGuiness, Wm	do		1871	1	2				Port Colborne	Hector	do	do	1	00
McCulloch, John	Second		1872	1	1				do	C. M. Carter	do	do	1	00
McClear, Thos	Third		1869	4	1				St. Catharines	Enterprise	do	do	1	00
McMaugh, Robert	do		1868	3	2				do	Dominion	do	do	1	00
McIntyre, Angus	Third		1873	1					do	None	do	do	5	00
McFaul, Michael	Third		1865	1	9				Kingston	John Bright	do	do	1	00
McReady, William	Third		1873	1		1873	1		Garden Island	J. A. Macdonald	do	do	5	00
McEwen, Daniel	Second		1870	1	1				Kingston	Lily	do	do	1	00
McEwan, J. F.	Third		1870	2	1				do	Welshman	do	do	5	00
McBride, A	Second		18 3	2	9				do	Magnet	do	do	1	00
McBride, R	Third		1863	1	9				do	do	do	do	1	00
McArthur, Alex	First		1871	3		1870	1		Howe Island	Argyle	do	do	5	00
McCaul, R.	Second		1867	2	1	1871	1		Kingston	Africa	do	do	1	00
McNeil, John	First		1869	3	2				do	Dandy	do	do	1	00
McGowan, Wm	First		1865	1	8				Ottawa	Queen Victoria	do	do	1	00
McPherson, Wm. C.	First		1872	2	1				do	Swan	do	do	5	00
McLean, D.	Second		1869	2	3				Aylmer	John Eagan	do	do	1	00
McElroy, T.	First		1867	1	6				Ottawa	Maud	do	do	1	00
McLeer, James	Third		1873	1					Windsor	Florence	do	do	5	00
McDonald, Charles	do		1873	1					do	Great Western	do	do	5	00
McDonald, Alex	Third		1869	4	1	1873	1		do	Transit	do	do	5	00
McDonald, H. L	First		1870	2	2				Wallaceburg	J. Holt	do	do	5	00
McDonald, David	First		1861	1	9				Windsor	Tecumseh	do	do	1	00
Murphy, Thomas	Third		1868	1	5				Kingston	Lily Kerr	do	Jan. 1,'73	1	00
Means, W. H	Third		1872	1	1	1872	1		Toronto	None	do	do	1	00
Mores, Friend	Second					1872	1		Muskoka	Young Lion	W. J. Meneilley	Oct. 8,'73	1	00
Mathews, J. A	Third					1872	1		Toronto	None	do	Dec. 20,'73	1	00
Morreau, Louis	Second		1869	2	2				Levis	Hope	By the Board	Jan. 1,'73	1	00
Madden, Michael	Second		1860	1	13				Kingston	Jessie Cassels	do	do	1	00
Morrison, Stephen	Second		1873	1	1	1872	1		North Port	Quail	do	do	5	00
Malcolmson, Samuel	Third		1869	2	2				Hamilton	Acadia	do	do	1	00
Monson, Jean B.	Third					1873	2		St. Elizabeth	Montreal	X. Pefort	Feb. 19,'73	1	00
Mowat, John	Second					1873	1		Hamilton	G.W.R'y Shop	W. J. Meneilley	April 1,'73	1	00
Moffat, James	do		1871	1	3	1871			Kingston	Prince Alfred	By the Board	Jan. 1,'73	1	00
Milne, William	Third		1864	1	9				do	Norman	do	do	1	00
Moreland, Edward	Second		1864	1	9				do	Sancho	do	do	1	00
Milne, Alex	do		1862	1	11				do	Vanderbilt	do	do	1	00
Munro, George	First		1865	1	8				Glencoe	City of Toronto	do	do	1	00
Meikle, James	Second		1863	1	10				Chateauguay	Mary Ward	do	do	1	00
Marchand, Albert	First		1868	2	3				Montreal	Champion	do	do	1	00
Marshall, Thos	Second					1873	1		Orillia	Cariella	W. J. Meneilley	May 27,'73	1	00
Mills, Thos	Third					1873	1		Collingwood	Cumberland	do	June 1,'73	5	00

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IV.—STEAMBOAT ENGINEERS' Examinations and Renewals during the year ended 31st December, 1873, their Class and Place of Residence, the Year of their First Examination and the Number of their Renewals, the Name of the Steamer last Employ, by Whom Examined, the Date of the Certificate, and Amount of Fee.—*Continued.*

Name of Engineer.	Class of Engineer.	Class of Assistant Engineer.	Date of 1st Board Examination.	No. of Board Examination.	No. of Renewals.	Date of 1st Local Examination.	No. of Local Examination.	Date of Issue.	Place of Residence.	Name of Steamer last Employ.	By whom Examined.	Date of Certificate.	Fee.
													$ cts
Mathews, John, A.	.....	Third	.....	.....	1	1873	2	.....	Toronto	W. T. Robb	W. J. Meneilley	July 2, '73	5 00
Mathews, John A.	.....	do	.....	.....	2	1873	2	.....	do	do	do	do	1 00
Morin, Dumase	.....	Second	.....	.....	.....	1873	1	.....	Deschambeault	Victory	X. Befort	July 10, '73	5 00
Maxwell, James	.....	do	1869	2	3	.....	.....	.....	Chateauguay	Pictou	By the Board	Jan. 1, '73	3 00
Mahier, J. B.	First	.....	1860	1	14	.....	.....	.....	Berthier	M. K. D.	do	Jan. 1, '74	1 00
Martineau, Jos., jun	.....	Third	1873	1	.....	.....	.....	.....	Montreal	Louise	do	do	5 00
Maxwell, James	.....	Second	1869	2	4	.....	.....	.....	Chateauguay	Pictou	do	do	1 00
Marchand, Narcisse	.....	Third	1872	1	.....	.....	.....	.....	Champlain	Bohemian	do	do	1 00
Marchand, Joseph	.....	do	1873	1	.....	.....	.....	.....	do	Dagmar	do	do	5 00
Martin, Pierre	.....	First	1873	1	2	1873	1	.....	Berthier	Elevator No. 1	do	do	7 00
Marchand, Joseph	Third	.....	1867	1	7	.....	.....	.....	Champlain	Princess	do	do	1 00
Morrison, Peter	.....	Second	1870	1	3	.....	.....	.....	Montreal	Dredge	do	do	2 00
Matte, Jean Baptiste	Third	.....	1866	1	7	.....	.....	.....	Sorel	Quebec	do	do	1 00
Mathew, Thomas	Second	.....	1864	1	10	.....	.....	.....	do	Barton	do	do	1 00
Mandeville, François	do	.....	1860	1	14	.....	.....	.....	do	Dredge	do	do	1 00
Matte Charles	do	.....	1860	1	14	.....	.....	.....	do	Castor	do	do	1 00
Marie, St. Jean	.....	First	1869	1	6	.....	.....	.....	do	Jean	do	do	1 00
Marcotte, Thomas	.....	Third	1873	1	2	1873	1	.....	do	Champlain	do	do	7 00
Melotte, Pierre	Third	.....	1866	1	7	.....	.....	.....	do	Mack	do	do	1 00
Martin, Asa	First	.....	1860	1	14	.....	.....	.....	do	None	do	do	1 00
Martin, Alexis	Third	.....	1862	1	12	.....	.....	.....	do	Victoria	do	do	1 00
Matte, William	.....	Second	1872	2	2	1872	1	.....	do	Rocket	do	do	5 00
Martin, Joseph	.....	do	1872	2	.....	1872	1	.....	do	Meteor	do	do	5 00
Matte, Jean	Second	.....	1860	1	14	.....	.....	.....	do	Canada	do	do	3 00
Morreau, Guillaume	do	.....	1860	1	14	.....	.....	.....	St. Antoine	Eugenie	do	do	1 00
Morreau, Louis	.....	Second	1869	2	3	.....	.....	.....	Levis	Humber	do	do	1 00
Morreau, Flavien	.....	Third	1872	1	1	.....	.....	.....	St. Antoine	Eugenie	do	do	1 00
Many, Edward	First	.....	1860	1	14	.....	.....	.....	Levis	Secret	do	do	1 00
Morin, Pierre	Third	.....	1860	1	14	.....	.....	.....	do	None	do	do	1 00
Morton, William	do	.....	1869	1	5	.....	.....	.....	Dartmouth	Chibucto	do	do	1 00
Mowbray, James	.....	First	1871	1	3	.....	.....	.....	St. John	Tug Derigo	do	do	1 00
Mathews, Jesse	Second	.....	1868	1	5	.....	.....	.....	Fredericton	City of Fredericton	do	do	1 00
Means, Wm. H.	.....	Second	1872	2	.....	1872	1	.....	Toronto	Lake Michigan	do	do	5 00
Moore, Wm. W.	.....	do	.....	.....	.....	1873	1	.....	Keswick	Hathaway	Chairman	July 1, '73	1 00

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Marshall, Thomas		Second				1873	1		Orillia	Cariella	W. J. Mencilley	July 27, '73	5 00
Myers, Friend		do			3	1872	1		Gin Bay Mills	F. Hotchkiss	do	Aug. 14, '73	3 00
Myers, Friend		do			3	1872	2		do	do	do	Aug. 18, '73	5 00
Mills, Thomas		Third	1873	1					Collingwood	Kincardine	By the Board	Jan. 1, '73	5 00
Marshall, Thomas		Second	1873	1		1873	1		Orillia	Cariella	do	do	5 00
Mallory, Charles		do	1872	2	2				Lindsay	Commodore	do	do	5 00
Murphy, Peter		First	1868	3	3				Kingston	Victoria	do	do	1 00
Mills, J. Albert	Third		1869	4		1873	1		St. Catharines	Asia	do	do	5 00
Mitchell, George	do		1867	1	6				Port Colborne	Minnie Battle	do	do	1 00
Morrison, R. A		Second	1870	2	2				Port Dalhousie	J. Morris	do	do	5 00
Malcolmson, S. S	Second		1861	2	10				St. Catharines	Armenia	do	do	1 00
Mundell John		First	1872	2		1872	1		Kingston	Africa	do	do	5 00
Marchand, Eda	Second		1864	1	10				do	Pierrepont	do	do	1 00
Michmore, L		Third	1872	1	1				Morton	Carlisle	do	do	1 00
Murphy, Thomas	Third		1868	1	4				Kingston	I. S. Edsall	do	do	1 00
Murphy, Thomas		Second	1872	2		1872	1		Newboro'	Welshman	do	do	1 00
Miller, John	Second		1865	1	8				Garden Island	Bay of Quinte	do	do	1 00
Madden, M	do		1860	1	14				Kingston	Silver Spray	do	do	1 00
Mathews, J		Second	1869	1	3				do	Novelty	do	do	1 00
Mayden, Daniel	Third		1867	1	6				Newboro	Elswood	do	do	1 00
Milne, Wm	do		1864	2	8				Kingston	Ocean			1 00
Murray, James	Second		1861	1	13				do	Spartan	By the Board	Jan. 1, '74	1 00
Munroe, F	do		1862	1	12				Howe Island	Argyle	do	do	1 00
Mungo, F		Third	1873	1					Portage du Fort	Alliance	do	do	5 00
Mahony, D		Second	1873	1					Sarnia	International	do	do	5 00
May, John	Second		1864	1	10				do	do	do	do	1 00
Miller, John		First	1872	1	2				Windsor	Transit	do	do	1 00
Munro, Daniel		Second	1872	2					Glencoe	Shop	do	do	5 00
Narcotte, Thomas		Third	1873			1873	1		Cape Santé	Hope	X. Befort	Feb. 19, '73	1 00
Nadeau, Jean		First	1869	1	5				Levis	St. Charles	By the Board	Jan. 1, '73	1 00
Noble, Henry		do				1872	1		Yarmouth	Charles River	Wm. M. Smith	June 2, '73	1 00
Neil, Andrew		do	1870	1	4				Three Rivers	None	By the Board	Jan. 1, '74	1 00
Nadeau, Jean		do	1869	1	5				Levis	St. Charles	do	do	1 00
Neilson, Robert		Second	1872	2	2				Chatham	Laddie	do	do	2 00
Noble, Henry		First	1873	1	4	1872	1		Yarmouth	Charles Ryan	do	do	9 00
Norcross, Samuel R	Third		1863	1	10				St. Catharines	Hector	do	do	1 00
Norcross, R. R		First	1869	2	2				Port Colborne	W. A. Routh	do	do	1 00
O'Brien, Timothy		Third	1873	1					Quebec	Ariel	do	do	5 66
Ouellett, François		Second	1871	2					Levis	Conqueror I	do	do	5 00
Orchard, Hiram		First	1871	2	2	1871	1		St. John, N. B.	None	do	do	2 00
O'Reilley, James	Third		1867	1	7				Garden Island	J. A. Macdonald	do	do	1 00
O'Reille, Thomas	Second		1865	2	7				Kingston	Rochester	do	do	1 00
Ostrout, George	First		1863	1	11				Portage du Fort	S. Cassels	do	do	1 00
Odette, Henry		First	1870	1	4	1870	1		Sarnia	Sea Gull	do	do	1 00
O'Hara, John			1873	Refused					United States	Transit	do	do	0 00
Paliquin, Thomas	First		1860	1	14				Levis	Georgia	do	do	1 00
Parsell, Thomas	do		1865	1	8				Toronto	Emily May	do	Jan. 1, '73	6 00
Potts Frederick		Third	1873	1					St. Catharines	None	do	Jan. 1, '74	5 00
Park, Joseph	Third		1865	1	8	1873	1		Windsor	Great Western	W. J. Mencilley	April 1, '73	1 00
Patterson, Joseph		Second				1873	1		Toronto	Prince Alfred	do	do	1 00
Phipps, A. P		First				1873	1		St. John, N. B.	Speck	Wm. M. Smith	June 11, '73	1 00

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IV.—STEAMBOAT ENGINEERS' Examinations and Renewals during the Year ended 31st December, 1873, their Class and Place of Residence, the Year of their First Examination and the Number of their Renewals, the Name of the Steamer last Employ, by Whom Examined, the Date of the Certificate, and Amount of Fee.—*Continued.*

Name of Engineer.	Class of Engineer.	Class of Assistant Engineer.	Date of 1st Board Examination.	No. of Board Examination.	No. of Renewals.	Date of 1st Local Examination.	No. of Local Examination.	Date of Issue.	Place of Residence.	Name of Steamer last Employ.	By whom Examined.	Date of Certificate.	Fee.
													$ cts
Parks, Joseph	Third		1865	1	8	1873	2		Windsor	Union	W. J. Meneilley	April 1, '73	1 00
Patterson, Joseph		Second			1	1873	1		Toronto	Lake Erie	do	June 1, '73	5 00
Park, Joseph	Third		1865	1	9	1873	2		Windsor	Union	do	do	5 00
Parkinson, Johnson		Second	1869	1	4				Port Traverse	Simon Davis	By the Board	Jan. 6, '73	3 00
Pacquette, Jerome	Second		1860	1	14				Montreal	Montarville	do	Jan. 1, '74	1 00
Poitras, J. B.	Third		1869	2	5				Lachine	Atlas	do	do	5 00
Pichè, Michel		Second	1872	2	1				Stonefield	M. K. D.	do	do	5 00
Paquin, Louis		do	1871	2	1				Deschambeault	White Bird	do	do	1 00
Potvin, J. B.		Third	1873	1					Longueuil	Montarville	do	do	5 00
Parent, Pierre	Second		1860	1	14				Montreal	Bronson	do	do	6 00
Pacquette, Modest	Third		1865	1	9				Kingston	City of Ottawa	do	do	1 00
Pichè, Ferdinand		First	1870	3					Montreal	Caribou	do	do	5 00
Pichè, Prospere	Third		1868	1	6				St. Hyacinthe	Mill	do	do	5 00
Pelletier, Edward		First	1869	2	2				Sorel	None	do	do	1 00
Pilot, Philias		Third	1873	1					do	Barton	do	do	5 00
Petri, Bartholmie		do	1873	1	6	1872	1		Levis	Amanda	do	do	11 00
Pacquire, Narcisse		do	1873	1					Deschambeault	Mars	do	do	5 00
Pearce, William	Third		1869	1	5				Dartmouth	None	do	do	1 00
Pearce, Abraham	Second		1869	1	5				do	None	do	do	1 00
Phipps, Asor. J.		First	1873	1					St. John, N. B.	St. John	do	do	5 00
Piercey, Samuel	Second		1873	1					do	None	do	do	5 00
Porter, Robert	do		1868	1	5				do	David Weston	do	do	1 00
Porter, John, E.	do		1868	1	5				do	St. Patrick	do	do	2 00
Perkins, Edward		First	1871	1	3	1871	1		do	Telegraph	do	do	1 00
Pratt, W. T.	First		1871	1	3				do	Rothsay	do	do	1 00
Pratt, Wm. John		First	1869	1	4				do	Hiram P.	do	do	1 00
Paul, Francis		Second	1873	1					do	Relief	do	do	5 00
Payden, Clement		do				1873	1		Lakefield	Col. Strickland	Chairman	July 1, '73	1 00
Potts, Fred		do	1873	2					St. Catharines	Dominion	By the Board	Jan. 1, '74	5 00
Powers, Patrick		First	1870	1	3				Kingston	Elevator	do	do	1 00
Pendergast, J.		Second	1871	2		1871	1		Cornwall	Corinthian	do	do	5 00
Prieur, D.		do	1868	1	5				Garden Island	City of Hamilton	do	do	1 00
Painter, John	Third		1868	1	5				Kingston	Lily	do	do	1 00
Pepin, E. L. Dil		Third	1873	1					Hull	Jane	do	do	5 00

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Purtell, Patrick		Third	1873	1					Windsor	Great Western		do		5	00
Patching, Albert		do	1873	1					Windsor	None		do		5	00
Park, Joseph	Second		1865	1	9	1873	1		do	nion		do		5	00
Pettigrew, Thos.	First		1869	3	2				Collingwood	None		do		5	00
Query, Ouzieme	First		1860	1	13				Sorel	Union		do	Jan. 1, '73	1	00
Quig, J. Samuel	Second		1860	1	14				Beauharnois	Banshee		do	Jan. 1, '74	1	00
Query, Ouzieme	First		1860	1	14				Sorel	Union		do		1	00
Quig, Samuel	Second		1862	1	12				Beauharnois	Champion		do		1	00
Quinn, Henry		First	1873	2					Quebec	Police Steamer		do		5	00
Quinn, George		Third				1873	1		Hamilton	Lake Erie	W. J. Meneilley		July 21, '73	5	00
Quail, George		do				1873	1		Orillia	Bella Taylor		do	Aug. 26, '73	5	00
Quail, George		do	1873	1		1873	1		do	do	By the Board		Jan. 1, '74	5	00
Quinn, George		do	1873	1					Quebec	W. S. Robb		do		5	00
Quigley, James		First	1869	1	4				Kingston	Carlisle		do		1	00
Quinn, Michael	Second		1860	1	14				Montreal	Wren		do		1	00
Reid, Thos. G	Third		1865	1	9				Wallaceburg	None		do	Jan. 1, '73	1	00
Reynolds, James	Third		1869	2	2	1873	1		Dundas	Dalhousie	W. J. Meneilley		April 1, '73	1	00
Roy, Alfred		First	1868	1	5				Port Levis	Conqueror	By the Board		Jan. 1, '73	1	00
Robert, Alexis	First		1861	1	12				Dover	Silver Spray		do		1	00
Riddle, John		Second			2	1872	2		Port Huron	Beaver	W. J. Meneilley		May 12, '73	3	00
Reynolds, James	Third		1869	2		1869	3		Dundas	R. W. Standly		do	June 1, '73	1	00
Robertson, Henry	Second		1866	1	7				Kingston	Europe	By the Board		Jan. 1, '73	1	00
Robitaille, Louis	Third		1864	1	9				Montreal	Aid		do		9	00
Ryan, Thos	Second		1860	1	14				Lachine	Prince of Wales		do	Jan. 1, '74	3	00
Roy, Francois		First	1869	2	3				Three Rivers	Beauharnois		do		2	00
Reilley, James		do	1873	1					Montreal	No. 4		do		5	00
Robert, Placide	Third		1867	1	7				Sorel	Abernethy		do		1	00
Robitaille, Chas		Second	1871	1	2				do	None		do		1	00
Ritter, Arthur		Third	1873	1	3	1873	1		do	Montreal		do		7	00
Rousseau, Joseph		First	1871	3	2	1871	1		do	Marie		do		5	00
Rousseau, Edward		Second	1872	1	1	1872	1		do	No Boat		do		1	00
Rouleau, Mederic		Third	1871	1					Levis	Rescue		do		5	00
Rousseau, Elise	Third		1869	1	14				do	Ranger		do		1	00
Rudiven, James	Third		1868	1	6				Quebec	Beaver		do		1	00
Roy, Alfred		First	1868	1	6				Levis	Conqueror		do		1	00
Roy, Timadans	Second		1868	2	4				do	None		do		1	00
Russell, Robert	Third		1868	1	6				Picton	Fast Riding		do		1	00
Rowe, Wm. C		First	1871	1	3				Yarmouth	Linda		do		1	00
Riddle, Geo. W		do	1871	1	3				do	do		do		2	00
Retallick, John	Second		1870	3	1				St. John, N.B	Western Extension		do		5	00
Robson, Wm		First	1868	1	6				do	J. D. Hunter		do		1	00
Ross, John	First		1868	1	6				do	Captain		do		1	00
Roach, Thos		Second	1868	2	4	1868	1		Fredericton	Enterprise		do		1	00
Ross, Robt. F		do	1873	1					do	None		do		5	00
Reynolds, Saml		do	1872	2	2				Port Hope	Norseman		do		5	00
Roberts, D. H		do	1872	1	1	1872	1		Wallaceburg	Pella Taylor		do		1	00
Reynolds, James	Third		1869	1	3	1869	2		Dundas	Lothair	W. J. Meneilley		Aug. 1, '73	5	00
Ross, George		Third	1872	1	1				Port Robinson	M. R. King	By the Board		Jan. 1, '73	1	00
Ross, Wm		First	1869	1	4				do	do		do		1	00
Ross, John		do	1869	1	4				do	M. R. Michell		do		1	00
Ross, R		Third	1873	1					do	M. R. King		do		5	00

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IV.—STEAMBOAT ENGINEERS' Examinations and Renewals during the Year ended 31st December, 1873, their Class and Place of Residence, the Year of their First Examination and the Number of their Renewals, the Name of the Steamer last Employ, by Whom Examined, the Date of the Certificate, and Amount of Fee.—*Continued.*

Name of Engineer.	Class of Engineer.	Class of Assistant Engineer.	Date of 1st Board Examination.	No. of Board Examination.	No. of Renewals.	Date of 1st Local Examination.	No. of Local Examination.	Date of Issue.	Place of Residence.	Name of Steamer last Employ.	By Whom Examined.	Date of Certificate.	Fee.
													$ cts
Ramsay, Alex	Third		1868	1	5				St. Catherines	Lincoln	By the Board	Jan. 1, '74	1 00
Robinson, Wm. S.	do		1868	2	4				Picton	Adventure	do	do	1 00
Rochefort, A.		First	1868	2	4				Kingston	Distillery	do	do	1 00
Robertson, H.	Second		1866	1	6				do	Lady of the Lake.	do	do	1 00
Racicot, A.	Third		1863	1	11				Ottawa	Jane	do	do	1 00
Rankin, R.		Second	1870	2	2	1870	1		Port Edward	Alex. Jones	do	do	1 00
Reilly, Robt.	Second		1863	1	11				do	W. J. Spicer.	do	do	1 00
Reeve, Elgie		Third	1873	1					Chatham	Mill	do	do	5 00
Russell, Wm.	Third		1873	1					Windsor	Shop	do	do	5 00
Roberts, Dugald H.		Second	1872	1	1	1872	1		Wallaceburg	Coral	do	do	1 00
Robert, Alexis	First		1861	1	13				Chatham	Bruno	do	do	1 00
Robert, Joseph		Second	1869	2	3				do	Union	do	do	5 00
Reynolds, Thos.		Third	1872	1	1				do	None.	do	do	1 00
Reynolds, James	Third		1869	3	3	1869	2		Dundas	Lothair	do	do	5 00
Smith, John		First	1873	1	1	1870	1		Montreal	Delisle	do	Jan. 1, '73	5 00
Smith, Wm.	First		1860	1	13				Sorel	Rocket	do	do	1 00
Sherwin, Joseph		First	1869	2	2				Byng Islet	Minnie Hall	do	do	1 00
Sharpe, James	Second		1865	1	8				Wellington Square	City of Chatham	do	do	1 00
Shanks, Andrew	do		1865	1	8				Portsmouth	Rockwood Asylum	do	do	2 00
Sullivan, Sylvester.	do		1860	1	13				Kingston	Kissawa	do	do	1 00
Swift, John		Third				1873	1		do	Bruno	J. Taylor	Feb. 25, '73	1 00
Smith, James		do				1873	1		Cornwall	Spartan	do	April 16, '73	1 00
Stevens, John		First	1866	1	7	1873	1		St. Catharines	Lake Ontario	W. J. Meneilley	June 2, '73	1 00
Stevens, John		do	1866	1	7	1873	1		do	do	do	do	1 00
Samson, Alexis	Third		1866	1	7				Levis	Conqueror	By the Board	June 1, '73	1 00
Swift, John		Third				1873	1		Kingston	Bruno	J. Taylor	Feb. 25, '73	1 00
Sandale, John	Third					1873	1		St. John, N.B.	Fazoo	W. M. Smith	June 17, '73	1 00
Steele, Wm.	do					1873	1		Quebec	Miramichi	J. Samson.	June 30, '73	5 00
Smith, James.		Third				1873	1		Cornwall	Spartan	J. Taylor	June 16, '73	1 00
Simmons, Thos.		do				1873	1		South Crosby	Frances	do	June 17, '73	1 00
Swift, John		do			1	1873	1		Kingston	Bruno	do	June 25, '73	1 00
Sequin, J. Bte		First	1870	2	2				Montreal	Arctic	By the Board	Jan. 1, '74	1 00
Spenard, Joseph P.		Second	1871	1	2				do	J. B. A.	do	do	2 00
Scott, Charles	Third		1871	3					do	Mary F. Purcell	do	do	5 00

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IV.—Steamboat Engineers' Examinations and Renewals during the Year ended 31st December, 1873, their Class and Place of Residence, the Year of their First Examination and the Number of their Renewals, the Name of the Steamer last Employ, by Whom Examined, the Date of the Certificate, and Amount of Fee.—*Concluded.*

Name of Engineer.	Class of Engineer.	Class of Assistant Engineer.	Date of 1st Board Examination.	No. of Board Examination.	No. of Renewals.	Date of 1st Local Examination.	No. of Local Examination.	Date of Issue.	Place of Residence.	Name of Steamer last Employ.	By Whom Examined	Date of Certificate.	Fee.
													$ cts
Thompson, John	.....	Second	1872	1	1	1871	2	.....	Kincardine	Herald	By the Board	July 5, '73	1 00
Thompson, Andrew	.....	First	1873	1	2	.....	.....	.....	St. Louis de Hornsage	Spartan	do	do	7 00
Taylor, Nicholas	.....	Third	1873	1	1	.....	.....	.....	Longueuil	Longueuil	do	do	1 00
Trudeau, Adolphe	.....	Second	1873	1	.....	.....	.....	.....	do	G. T. R. Shop	do	do	5 00
Trudeau, Pierre	Third	.....	1869	1	9	.....	.....	.....	Sorel	Champlain	do	do	1 00
Tessier, Jules	do	.....	1860	1	14	.....	.....	.....	do	Mackinonge	do	do	1 00
Tessier, ...	Second	.....	1860	.....	14	.....	.....	.....	do	Lorne	do	do	1 00
Tellier, Alexis	.....	First	1869	3	2	.....	.....	.....	do	New York	do	Jan. 1, '74	5 00
Ouellet, Joseph	.....	Third	1873	1	.....	.....	.....	.....	Three Rivers	Lavalle	do	do	5 00
Turcotte, J. B.	Third	.....	1869	1	14	.....	.....	.....	Levis	Saguenay	do	do	1 00
Thompson, Thos. P.	do	.....	1869	4	1	.....	.....	.....	Quebec	Rescue	do	do	5 00
Theriault, Simeon	do	.....	1860	1	14	.....	.....	.....	Levis	Arctic	do	do	1 00
Turner, James	First	.....	1868	1	6	.....	.....	.....	Charlottetown	St. Lawrence	do	do	1 00
Trask, William	.....	First	1868	1	6	.....	.....	.....	do	Princess of Wales	do	do	1 00
Tolvin, David	.....	do	1872	1	2	.....	.....	.....	do	Heather Bell	do	do	1 00
Tapley H. E.	.....	do	1869	2	3	.....	.....	.....	St. John	St. George	do	do	1 00
Thorne, Fred.	.....	Second	1870	2	2	.....	.....	.....	do	Norseman	do	do	1 00
Tudhope, George	.....	Third	1872	1	1	.....	.....	.....	do	None	do	do	1 00
Taylor, Henry	.....	do	.....	.....	.....	1873	1	.....	Chatham	John S. Noyes	W. J. Meneilley	July 16, '73	5 00
Thorburn, John	.....	Second	1872	1	1	1871	1	.....	Goderich	Vanderbilt	Chairman	Jan. 1, '73	1 00
Turner, Angus	Third	.....	1865	1	8	.....	.....	.....	Napanee	Kincardine	By the Board	do	1 00
Taylor, J. F.	First	.....	1861	1	13	.....	.....	.....	St. Catharines	Scotia	do	do	1 00
Taylor, J. H.	Second	.....	1864	2	8	.....	.....	.....	do	Enterprise	do	do	1 00
Townshend, William	Third	.....	1861	1	13	.....	.....	.....	Port Dalhousie	Young Lion	do	do	1 00
Thorne, Robert	.....	Third	1873	1	.....	.....	.....	.....	Collingwood	Algoma	do	do	5 00
Theriault, F.	Second	.....	1866	1	8	.....	.....	.....	Garden Island	City of Hamilton	do	do	1 00
Thorp, William	.....	First	1870	1	3	1870	1	.....	Hull	Steam Mill	do	do	3 00
Thorpe, George	.....	Second	1873	1	.....	.....	.....	.....	Windsor	Shop	do	do	5 00
Trotter, Samuel	.....	Third	1872	1	1	.....	.....	.....	Chatham	None	do	do	1 00
Taylor, Andrew	.....	do	1873	1	.....	.....	.....	.....	Windsor	do	do	do	5 00
Vincent, Francis	Second	.....	1860	1	14	.....	.....	.....	Montreal	Laprairie	do	do	1 00
Valler, Augustin	.....	First	1869	3	2	.....	.....	.....	do	Spartan	do	do	5 00
Vreuland, D.	Third	.....	1866	1	8	.....	.....	.....	Sarnia	International	do	do	6 00

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Williamson, Andrew	Second	1869	1	4	.....	.....	.....	Silver Islet	None	do	Jan. 1, '73	1 00
Weir, Allan	First	.....	.....	.....	1873	1	.....	Halifax, N.S.	Alpha	Wm. M. Smith.	Mar. 21, '73	6 00
Wright, D. L.	Second	.....	.....	2	1873	1	.....	Chatham	R. W. Standly	Chairman	June 1, '73	2 00
Whitman, James E.	Third	.....	.....	.....	1873	1	.....	Yarmouth, N.S.	Gipsy	Wm. M. Smith.	June 2, '73	1 00
Walker, James L.	Second	.....	.....	.....	1873	1	.....	Thorold	J. H. Doyle	W. J. Meneilley	May 28, '73	1 00
Wright, D. L.	do	.....	.....	2	1873	2	.....	Chatham	R. W. Standly	Chairman	Aug. 1, '73	5 00
Weir, Robert	First	1872	1	1	.....	.....	.....	Montreal	Champion	By the Board	Jan. 1, '74	1 00
Wood, James	Third	1865	1	9	.....	.....	.....	Lachine	Canada	do	do	1 00
Wool, Joseph	First	1871	1	3	.....	.....	.....	Quebec	Voyageur	do	do	1 00
Webster, James	Second	1868	1	6	.....	.....	.....	Pictou	Dragon	do	do	1 00
Wilson, William	Second	1871	1	3	.....	.....	.....	Dartsmouth	None	do	do	1 00
White, William	First	1873	1	.....	.....	.....	.....	St. John	Linda	do	do	5 00
Webster, John	Second	1873	1	.....	.....	.....	.....	do	None	do	do	5 00
Wilson, Alex, jun.	First	1870	1	4	.....	.....	.....	St. John, N.B	Western Extension	do	do	1 00
Welsh, John	do	1868	2	4	.....	.....	.....	do	Dot	do	do	1 00
Wilson, Alexander	First	1868	1	6	.....	.....	.....	do	Antelope	do	do	1 00
Wright, D. L.	Second	.....	.....	3	1873	1	.....	Chatham	R. W. Standly	Chairman	Oct. 1, '73	1 00
Walker, R. T.	Third	.....	.....	.....	1873	1	.....	Thorold	J. H. Doyle	W. J. Meneilley	Aug. 19, '73	5 00
Walsh, William	Second	1865	1	8	.....	.....	.....	St. Catharines	America	By the Board	Jan. 1, '73	1 00
Wright, Emerson	Third	1868	2	5	.....	.....	.....	do	City of Montreal	do	do	1 00
Wright, R.	.....	Second	1872	1	1	.....	.....	.....	Allanburgh	Adela Carter	do	do	1 00
Wilcox, David	First	1867	3	5	.....	.....	.....	Port Colborne	do	do	do	1 00
Wilson, H. T.	Third	1873	1	.....	.....	.....	.....	St. Catharines	None	do	do	5 00
Wardell, William	First	1872	2	6	1871	1	.....	Belle Ewart	E. Dunham	do	do	1 00
Ward, William	Third	1871	1	2	1871	1	.....	Kingston	Norseman	do	do	7 00
Webster, R. A.	.....	.....	1	Refused	.....	.....	.....	Chatham	None	.....	.....	.....
Wright, D. L.	Second	1873	1	2	1873	2	.....	do	R. W. Standly	By the Board	Jan. 1, '74	5 00
Walker, David	First	1870	3	1	.....	.....	.....	Lindsay	.....	do	do	1 00
Young, Francis	Third	.....	.....	1	1872	1	.....	Owen Sound	Frances Smith	W. J. Meneilley	Sep. 30, '73	1 00
do	do	.....	.....	4	1872	1	.....	do	do	do	Oct. 1, '73	4 00
Youlden, H.	Second	1872	1	1	1872	1	.....	Kingston	Fire Engine	By the Board	Jan. 1, '73	1 00
Yates, George	do	1871	1	.....	.....	.....	.....	Wallaceburg	Thames	do	do	1 00

SAMUEL RISLEY,
Chairman, Board of Steamboat Inspection.

TORONTO, January, 1874.

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STATEMENT of Duties and Fees collected during the Year ended 30th June, 1873, on account of Steamboat Inspection Fund.

	$ cts.	$ cts.
Amhertsburg	28 10	
Belleville	155 90	
Brockville	18 70	
Chatham	154 70	
Coburg	49 40	
Colborne	75 30	
Cornwall	21 40	
Dundas	20 10	
Dunnville	27 90	
Fort Erie	105 20	
Goderich	111 50	
Hamilton	542 10	
Hope	111 30	
Kingston	1,140 10	
Napanee	9 20	
Ottawa	645 10	
Owen Sound	71 40	
Peterboro'	16 20	
Picton	56 80	
Prescott	19 60	
Rowan	33 80	
St. Catharines	668 00	
Sarnia	342 60	
Sault Ste. Marie	58 99	
Stanley	120 09	
Toronto	2,512 88	
Wallaceburg	131 10	
Windsor	1,088 50	
	8,335 96	
Less refunded at Kingston and Rowan	23 40	
		8,312 56
Quebec.		
Montreal	2,651 90	
Quebec	2,387 90	
Three Rivers	70 80	
		5,090 60
New Brunswick.		
Chatham	34 90	
Fredericton	116 80	
Newcastle	28 40	
Shediac	12 00	
St. George	6 70	
St. John	1,164 90	
Woodstock	7 00	
		1,370 70
Nova Scotia.		
Annapolis	6 80	
Arichat	9 44	
Halifax	51 80	
Pictou	147 60	
Port Hawkesbury	00 19	
Sydney	45 27	
Yarmouth	71 60	
		332 70

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STATEMENT of Duties and Fees collected during the Year ended 30th June, 1873, on account of Steamboat Inspection Fund.—*Concluded.*

	$ cts.	$ cts.
Manitoba.		
Winnipeg	70 00	70 00
British Columbia.		
Victoria	236 19	236 19
Total		15,412 75

WM. SMITH,
Deputy of Minister of Marine, &c.

DEPARTMENT OF MARINE AND FISHERIES,
January, 1874.

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APPENDIX

LIST OF LIGHTS OF THE DOMINION OF CANADA, UNDER THE

All the Lights below Quebec, on the River St. Lawrence, including Point des Monts, and lighted on the 1st April, of each year.

The Lights in the Gulf of St. Lawrence, Straits of Belle Isle, Northumberland Straits, on the Bird Rocks which is kept burning till the 31st December, and the light on the

The Lights in the Bay of Fundy, and on the Southern and Eastern Coasts of Nova

The Lights above Quebec, and on the Lakes, are shown during the season of naviga

All bearings are magnetic, and are given from seaward.

ABBREVIATIONS:—F., fixed or steady; Fl., flashing; F. and Fl., fixed light, with a white or red flash in D, dioptric or by refracting lenses;

LABRA

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Belle Isle.....	Straits of Belle Isle, extreme south point of island.	51 53 0	55 22 15	One	F	....	28
Amour Point.....	South-east side of Forteau Bay.	51 27 35	56 50 55	One	F	.....	18

NEWFOUND

Cape Norman.....	Straits of Belle Isle. ...	51 38 0	55 53 40	One	Rev	Every 2 minutes	20
Point Rich.....	Straits of Belle Isle	50 41 50	57 27 40	One	Fl	Every 15 seconds	18
Cape Ray	On west side of Cape....	47 37 0	59 18 0	One	Rev & Fl	Rev. every 2½ m., Fl. every 10 sec.	20
Cape Ray, Fog Whistle.	Newfoundland.....	47 37 0	59 17 45	.....	....	....	H'rd from 3 to 15.

ST. LAWRENCE

St. Paul Island....	On rock off north-east point of the island.	47 13 50	60 8 20	One	F	.....	20
St. Paul Island....	South-west point of island.	47 11 20	60 9 36	One	Rev	Every minute...	20

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No. 36.

CHARGE OF THE DEPARTMENT OF MARINE AND FISHERIES.

Cape Chatte, Seven Islands, and Egg Island, will be extinguished on the 10th December

and Gut of Canso, will be extinguished on 20th December, with the exception of the light south-west point of St. Paul's Island, which is shown all the year round.
Scotia, are exhibited all the year round.
tion.

addition, preceded and followed by a short eclipse; Rev., revolving; C, catoptric, or by metalic reflector; Int., interval; Alt., alternate.

DOR.

Color, or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Circular tower, clapboarded white.	470	62	1858	Dioptric, First order.	Visible from about N.W. by N., round by South to East. A gun is fired every hour during fog and snow storms. Depôt of provisions for shipwrecked mariners. Var. in 1869, 39° 10′ W.
Circular tower, white	155	109	1858	Dioptric, Second order.	A gun fired here every hour during fog and snow storms.
LAND.					
Hexagonal white tower....	138	40	1871	Catoptric	Visible from all points of approach seaward.
do do	130	40	1871	do	It is visible from all points of approach seaward.
do do ...	.....	41	1871	do	At a long distance flashes not observed.
.....	.....	.....	.....	do	Will be blown in thick and foggy weather and during snow storms, 10 sec. in each minute, leaving an interval of 50 sec. between each blast.
GULF AND RIVER.					
Octagonal, wood, white...	140	40	1839	Dioptric, Third order.	Obscured between N. by E. ½ E. and E. N. E.
do do ...	140	40	1831	do	A fog whistle has been erected on the south side of the Island, S.W. of Atlantic Cove, about ½ a mile from the Humane Establishment, which will be sounded once for five seconds in each minute during thick weather and storms.

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LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE GULF

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Bird Rocks	Magdalen Islands	47 50 40	61 8 20	One	F	....	21
Grindstone Island	do do	47 23 30	61 58 0	One	Rev		20
Amherst Island	South point Amherst Island, Magdalen Islands.	47 13 0	61 58 0	One	Rev	Red 30 seconds White 30 sec.	20
Paspebiac	On the Spit	48 0 54	65 14 20	One	F		13
Carleton Point	Bay Chaleur	48 5 15	66 7 0	One	F		12
Gaspé Cape	County Gaspé, P.Q.	48 45 15	64 9 15	Fixed red	....		12
Gaspé Harbor	Sandy Beach Point. Light vessel moored off extreme of Spit.	48 50 45	64 24 30	Two, red 29ft., & white 35 ft from deck.	F		
	O'Hara Point, Wharf Basin.	48 49 53	64 31 41	One	F		7
Cape Rosier	On Cape	48 51 57	64 12 0	One	F		16
Port Neuf	Port Neuf, Lower St. Lawrence, P.Q.	48 37 0	69 6 0	One	F		15
Anticosti Island	East end of Anticosti	49 6 30	61 42 30	One	F		15
	South-West Point of Anticosti	49 23 45	63 35 46	One	Rev	Every minute	15
	Extreme West Point of Anticosti.	49 52 30	64 31 40	One	F		15
	⅔ mile west from South Point of Anticosti.	49 4 30	62 17 30	One	Fl	Flash every 20sec	14
Matane	Matane, Rimouski, River St. Lawrence, P.Q.	48 52 0	67 33 0	One	F		10
Cape Magdalen	On the Cape	49 15 40	65 19 30	One	Rev	Red and white every 2 min.	Red 15, White 20
Egg Island	On the Island, 600 feet from south end.	49 38 0	67 10 0	One	Rev	Every 1½ minute	15
Cape Chatte	North-west point of Cape.	49 5 50	66 45 50	One	Fl	Interval of 30sec. between each flash.	18
Point de Monts	About 1¼ mile north-east of Point.	49 19 35	67 21 55	One	F		15
Father Point, Rimouski.	On Point	48 31 25	68 27 40	One	F		10
Biquette Island	Near centre of Island	48 25 18	68 53 20	One	Rev	Every 2 minutes.	17

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of the Department of Marine and Fisheries.—*Continued.*

AND RIVER.—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Hexagonal tower, white...	140	50	1870	Dioptric, Second order.	Dwelling house also white, 200 feet from tower Fog gun every hour during fogs and snow storms, since 15th Aug. 1873.
Square do do ...	200	28	1874	Catoptric.....	To be lighted on 20th April, 1874.
Hexagonal do do	....	.....	1871	do	
Square wood tower, white.	55	54	1870	do	Situated near extremity of Spit.
Wooden, white.	32	28	1872	do	Red light.
Square wooden building, 30 feet high, with keeper's dwelling attached.	350	.....	1873	do	A fog whistle in course of construction.
Painted red, with "Light Vessel" on her side	.....	.. ...	1871	do	Red light, with white light 6ft. above it.
....	30	.....	.....	do	Red light.
Circular tower, clapboarded, white	136	112	1858	Dioptric, First order.	A gun is fired every hour during fog and snow storms. Var. in 1869, 26° 16' W.
Square wooden building, 27 feet high, painted white.	40	.....	1873	Catoptric.	
Circular tower, faced, clapboarded, and white.	110	90	1835	do	The lighthouse must always be kept open to the southward of Cormorant Point. Visible between the bearings S. W. by W. to E. Depot of provisions here for shipwrecked mariners.
Circular tower, faced, clapboarded, and white.	100	75	1831	do	Visible between bearings of N. N. W. round by S. to S. E. by E.
Circular tower, clapboarded white.	112	109	1858	Dioptric, Second order.	A gun fired every hour during fogs and snow storms. Depot of provisions for shipwrecked mariners.
Hexagonal tower, white...	75	54	1871	Catoptric.....	A fog whistle sounded in snow storms, and in thick or foggy weather for ten seconds in every minute, thus making an interval of 50sec. between each blast
Square wooden building 28 feet high, with keeper's dwelling attached, painted white.	65	.....	1873	do	Red Light.
Hexagonal tower, white	147	54	1871	do	An interval of two minutes between each flash.
Octagonal tower, surmounting keeper's dwelling.	70	35	1871	do	
A low square tower, with dwelling house combined, white.	110	37	1871	do	Visible from all points of approach seaward.
Circular tower, clapboarded white.	100	75	1830	do	Depôt of provisions for shipwrecked mariners. Var. in 1869. 25° 40' W. A gun will be fired every hour during fog and snow storms.
Square tower, white	43	.....	1859	do	Pilots stationed here.
Circular, clapboarded, white	112	65	1844	do	A gun fired every half hour during fog and snow storms.

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LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE GULF

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ' "	° ' "				
Red Island Reef...	Light vessel N. E. from Red Island, in 10 fathoms of water.	48 6 30	69 30 20	Two—one on fore and other on main-mast	F	....	12
Manicouagan Shoal	Light vessel, 4 miles from land, the East Peninsula bearing N.E. and the West Peninsula bearing W.N.W., moored in 25 fathoms water.	49 2 0	68 15 0	Two, one 27 ft. and the other 24 ft. from deck.	F	.....	12
Red Islet.....	On centre of islet.....	48 4 20	69 32 56	One	F	.....	12
Lark Islet.....	Entrance to Saguenay....	48 5 30	69 49 0	One	F	....	10
Green Island.....	On north point of islet...	48 3 17	69 25 10	One	F	.....	13
Brandy Pots	42 fathoms from south-east end of the islet.	47 52 30	69 40 50	One	F	.....	10
Long Pilgrims.....	20 fathoms west of centre of island, and 54 fathoms south from water's edge	47 43 15	69 44 20	One	F	.....	12
Grand Isle, Kamouraska	120 fathoms from north-east end of island, 80 fathoms from water's edge	47 38 20	69 51 40	One	F	.....	18
South Traverse....	Light vessel, north-east part of St. Rocque Shoals	47 22 10	70 14 50	Two. Main light 4 feet higher than the other.	F	.....	9
South Traverse....	North-west edge of St. Rocque Shoals.	47 19 50	70 16 0	Two. Main light 8 feet higher than the other.	F	.....	6
Stone Pillar.....	50 fathoms from south point of islet.	47 12 25	70 21 26	One	Rev	Every 1½ minute	13

ST. LAWRENCE

Crane Island	1½ mile from west point of island.	47 3 0	70 34 30	One	F	.....	10
Belle Chasse	East end of island.....	46 56 0	70 46 0	One	F	....	....
Point St. Lawrence	Island of Orleans	46 51 50	71 0 40	One	F	....	8
Monté du Lac.....	Cape Rouge	47 7 40	70 42 30	One	F	.....	10

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of the Department of Marine and Fisheries.—*Continued.*

AND RIVER.—*Continued.*

Color, or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Vessel, painted red, with words "Red Island Light Ship" on each of her sides	.....	34 feet from deck.	1871	Catoptric	The vessel lies moored in 10 fathoms of water in a N. E. direction from Red Island, a little open to the N. of Hare Island, with the red buoy lying about half a mile in a W.S.W. direction. A steam fog whistle has been placed on the above-named light ship, and during thick and foggy weather and snow storms will be sounded for 10 seconds in every minute, thus making an interval of 50 seconds between each blast.
.....	.....	.....	1872	.....	A fog whistle has been placed on this vessel, and will be sounded with a blast of 8 seconds' duration, then an interval of 8 seconds, then a blast of 8 seconds, and then an interval of 2 minutes 20 seconds.
Circular, grey stone.....	75	51	1848	Catoptric.....	
Square, wood, white.....	35	29	1872	do	
Octagonal, clapboarded white.	60	40	1809	do	A gun fired every half hour during fog and snow storms.
Brick, drab color.....	78	39	1862	Dioptric, Fourth order.	
do	180	39	1862	do	
Wood.....	166	39	1862	Catoptric.....	Variation in 1869, 19° 0′ W.
Two masts, painted red....	.....	.....	1836	do	The ship's bell is kept tolling during fogs and snow storms. When the light-ship is out of place, the ball at the mainmast head is taken down during the day, and she exhibits one light instead of two during the night, until again moored in her proper place.
.....	.....	.....	1871	do	If the vessel should be out of place, the light on the foremast alone will be exhibited, and during the day the ball on the foremast head will be taken down. A bell will be tolled during thick weather, fogs, and snow storms.
Stone, conical, white.....	68	38	1843	do	

RIVER.

Wood	44	37	1862	Catoptric.....	Variation in 1870, 17° 50′ W.
do	70	30	1862	do	
do white	38	.....	1869	do	
Square tower, painted white	175	30	1870	do	

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LIST of Lights of the Dominion of Canada under the charge

ST. LAWRENCE

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
St. Antoine	South Shore	46 39 40	71 36 10	One	F		10
St. Croix	On shore near high water mark, and a quarter of a mile north of church.	46 37 45	71 44 10	One	F		6
Port Neuf	On north shore, ¾ of a mile off the river.	46 41 48 N. light	71 52 10	Two. S.W. & N.E., nearly 180 yards apart.	F		5
Platon Point	On south side, 1½ mile below Richelieu Island.	46 39 13 N. light	71 53 3	Two. S. 72°W. 169 yards apart.	F		12
Richelieu	Centre of island	46 38 30	71 54 51	One	F		6
Langlais Point	On south shore, ½ mile below Great Chene River.	46 35 5	71 59 35	One	F		5
Cape Charles	On Cape	46 33 39	72 4 15	Two, N. 67° W., 80 yards apart.	F		4
Grondine	North shore	46 35 49	72 4 12	Two, S 66°W., 1,350 yards apart.	F		5 each
St. Pierre des Becquets.	South shore, summit of St Pierre Point.	64 30 28	72 12 30	One	F		5
Batiscan	North shore, 1¼ mile below Batiscan Church.	46 30 16 S. light	72 14 52	Two, S.73°W., 222 yards apart.	F		3
Champlain	North shore, near Champlain Church.	46 24 34	72 20 32	One	F		4
Cape Madaleine.	Lower light, north shore, 3 miles below Cape.	46 23 46 S. light	72 27 18	Two, S.60°W., 200yards apart	F		4
	Upper light, north shore, 2 miles below Cape.	46 23 16 W. light	72 28 38	Two, S.85°W., 235 yards apart.	F		6
Port St. Francis	South shore, high light on a pier.	46 16 20 W. light	72 37 15	Two, S.76°W., 3,240 yards apart.	F		3 each
Point du Lac	North shore.	46 16 50	72 40 22	One	F		12
St. Peter's Lake. East	Light vessel in lake.	46 15 56	72 42 18	One	F		6
St. Peter's Lake. Centre	Light vessel, S.S.E., 2½ miles from Rivière du Loup.	46 11 39	72 53 20	One	F		6
St. Peter's Lake. Western	Light vessel, north side of channel N. E by N., 3 miles from Flat Island.	46 9 39	72 56 50	One	F		6
St. Peter's Lake. Isle au Raisins.	On island.	46 6 14	72 57 50	One	F		6
	South side of island.	46 6 0	72 58 0	One	F		

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of the Department of Marine and Fisheries.—*Continued.*

RIVER.—*Continued.*

Color, or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Wood, white.....	96	.....	1858	do	
do	30	20	1842	do	A small light to assist in keeping in channel for some distance up and down the river.
Both stone, and white, the lower lantern on roof of house.	200 120	....	1842	do	These lights in one lead up Richelieu Channel to the light on Richelieu Island.
Wood, octagonal, white...	152 130	24 7	1816 1824	do	These lights lead up the Richelieu. Variation in 1868, 15°W.
Octagonal, stone	27	.....	1816	Catoptric.....	This light and the light on Platon Point are very nearly in the same line of bearing, namely, N. 73°E.
Wood	35	8	1844	do	To show off Battures des Grondines, and to avoid Battures Cordin, and as a steering point for Richelieu.
do	110	20	1856	do	Lead to and from Cape à la Roche and Cape Charles, and to answer as a steering point through Richelieu.
Octagonal, wood, white....	50& 25	30	1857	do	To lead off Cape à la Roche to Levrard.
do do	85	12	1844	do	To indicate the widest berth off Cape à la Roche. Variation in 1870, 14°16'W.
do do	39 20	31 11	1844	do	To lead through Levrard and lear Batture St. Ann on south, and Pouillier on north.
do do	30	10	1844	do	Steering point for lower point of Bay of Champlain.
do do	53 33	13 10	1843	do	To clear Batture Bigot. Variation in 1869, 14°W.
do do	55 35	30 10	1843	do	To clear Pouillier Provenché.
Wood, octagonal, white, high and low.	31 12	21 4	1849	do	The lights in one with the eastern light vessel on lake lead up through the dredged canal. S. 70° W. High light on a pier, and removed in winter.
Octagonal, wood, white....	71	24	1843	do	Shows the turn of channel at Point du Lac.
Red	15	8	.....	do	Removed at the approach of winter on account of ice. On south side of Petite Traverse of Rivière du Loup.
do	15	8	1816	do	Removed at the approach of winter on account of ice. To indicate the turn of the channel, and leads to No. 2.
do	15	8	1828	do	In connection with Isle à la Pierre, and bearing in line with No. 1, and to avoid Battures St. François and à la Carpe. Variation in 1869, 13½°W.
do	30	22	1843	do	To lead from the entrance of the Batture of Lake St. Peter to No. 1 light vessel up and down.
do	.....	...	1863		

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LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Stone or Isle à la Pierre.	On east side of island....	46 5 54	72 59 40	One.....	F	.....	6
Lavaltrie.....	South side of island	45 52 55 S. light	73 16 0	Two, S. 38° W., 320 yards apart.	F	.....	
Traverse	2½ miles above Contrecœur	45 49 52 N. light	73 17 0	Two, S. 28°W., 1,500 yards apart.	F	.....	
Isles aux Prunes...	Opposite Vercheres	45 46 50	73 22 30	One.....	F	.....	
Répentigny.....	¾ of a mile below Répentigny.	45 45 2 N. light	73 26 8	Two, S. 22°W., 170 yards apart.	F	.....	4
Isle à la Bague	On islet.....	45 44 14	73 26 15	One.....	F	.....	4
St. Therese.....	On island.....	45 41 22 N. light	73 27 40	Two, S. 50°W., 220 yards apart.	F	.....	4
Point aux Trembles	North shore	45 38 26 E. light	73 29 20	Two, S. 46°W., 600 yards apart	F	.....	
Montreal.....	On island wharf.....	45 30 22	73 33 14	Two, S. 41°W., 73 yards apart	F	.....	4 each
Lachine.....	On pier at entrance of canal, North shore.	45 27 0	73 41 0	One.....	F	.....	6
Lake St. Louis..	Light vessel, 4-5ths of a mile above Lachine.	45 26 30	73 42 10	One.....	F	.....	6
	Light vessel 2⅝ miles above Lachine.	45 25 40	73 44 15	One.....	F	.....	6
River Ottawa :—							
Point aux Anglais..	Near Carillon.....	45 13 0	74 15 0	One.....	F	.....	10
Claire Point.....	Light vessel South side of channel, 63 chains above Dewal from Light No. 3 on St. Lawrence, near Clair Point.	45 24 30	73 45 20	One.....	F	.....	
	On shoal North side of channel, about 1½ mile below St. Clair, 120 chains westerly from light ship near Point Claire.	45 26 0	73 48 10	One.....	F	.....	7
Wade Shoal.....	.....	45 25 0	75 37 0	One.....	F	.....	8
Point L'Orignal ...	On the point.....	45 42 0	74 46 15	One.....	F	.....	6
McTavish Point...	On the pier.....	45 50 0	74 52 30	One.....	F	.....	
Green Shoal.....	On pier south side of channel, 7 miles below Ottawa City.	45 29 30	75 31 20	One.....	F	.....	9
Morris Lake.....	Lake des Chats.....						8
Campbell's Island..	do	.....	.....	Three	F	.....	to
Islet at mouth of Deep River.	.....						10

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of the Department of Marine and Fisheries.—*Continued.*

RIVER.—*Continued.*

Colour, or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Red	30	.....	.....	Catoptric	Indicate entrance to channel, and leads to No. 1.
do	21 13	17 9	1831	do	Leads to channel called Flat Islands.
Wood, white, square	.....	.....	1857	do	To lead into Lavaltrie Channel and Isle Bouchard, and indicates the new channel to be kept in line till Lavaltrie Lights are brought to bear.
Octagonal, wood, white	.....	.....	1866	do	To clear the island.
Wood, white	30 14	26 14	1843	do	To lead through Isle à la Bague Channel, and to avoid Pouillier on north and shoal on south.
Octagonal, wood, white	24		1831	do	To indicate the island being extremely low land. Removed in winter on account of the ice.
Square, wood, white	.....	.....	.....	do	Leads to entrance through Verchères Channel up and down the river. Variation in 1869, 12½° W.
igh and low, octagonal, Hwood, white	53 25	....	1846	do	To lead through the channel between Point aux Trembles and Varennes, up to Longue Point.
Wood, octagonal	38 29	31 21	1830	do	Red lights. Indicate the deepest channel to and from the harbor. Variation in 1870, 11°45'W.
Square, wood, white	23	17	1849	do	Variation in 1870, 11° 25' W.
Circular, iron, red	20	.....	1849	d	Tower on vessel white, lantern red.
Red	20	.....	.....	do	do do
White	22	27	1873	do	River light.
Iron, red	21	17	.....	do	Tower on vessel white, lantern red.
Wood	29	25	.....	d	
Lantern on framework	35	25	1870	do	
Hexagonal, white	45	30	1871	do	Beacon light.
.....	35	30	1871	do	do
Wood, white	36	17			
			.....		
Square wooden buildings, 20 feet high, painted white.	....	.....	.....	do	Beacon lights, white.

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LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Chateauguay	Light vessel 4½ miles above Lachine.	45 24 0	73 49 18	One	F		6
Beauharnois	Lower entrance of canal, South shore.	45 19 40	73 54 30	Two N. 61°E., 414 yards apart.	F		10
Grosse Point	Upper entrance of Beauharnois Canal.	45 15 35	74 9 25	Two	F		8
Off Grosse Point	On piers in river	45 15 30	74 9 30	Two	F		3or4

ST. FRANCIS

Coteau du Lac	On pier landing	45 15 30	74 13 10	One	F		3
McGee's Point	North shore	45 12 25	74 19 10	One	F		10
Cherry Island	South side of north channel.	45 9 10	74 22 30	One	F		10
Cherry	On a pier in the river	45 8 20	74 25 40	One	F		8
Crib	North side of channel, on a pier 4 miles S.W. from Lancaster village.	45 6 40	74 30 30	One	F		8
Cornwall Canal		45 1 0	74 55 25	One	F		

BETWEEN ST. FRANCIS

Windmill Point	Prescott, Ontario, River St. Lawrence.	44 46 20	75 28 40	One	F		15
Hamilton Island	County of Glengarry, Ont	45 4 28	74 32 27	One	F		10
Glengarry, or Stone House Point.	do do	45 3 32	74 36 45	One	F		10
Coles Shoal	On pier 5 miles west of Brockville, ⅔ of a mile from north shore.	44 34 10	75 45 40	One	F		6
Grenadier Island	S.W. point of island, north side of channel, 2 miles below Rockport.	44 24 30	75 54 10	One	F		10
Lindoe Island	N.W. point of island, south side of channel, 5 miles west of Rockport.	44 22 30	76 0 10	One	F		7

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of the Department of Marine and Fisheries.—*Continued.*

RIVER.—*Continued.*

Colour, or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Red.....	20	.....	1849	Catoptric.....	Tower white, lantern red.
Wood, square frames.....	.....	.....	1850	do	In one lead to Chateauguay Light. Variation in 1869, 11° 15' W.
Square, wood, one red and one white.	20	20	1845 1850	do	To be kept in one when leaving the canal, till the upper lights come in one.
Square, wood, one red and one white.	.....	.....	1850	do	

LAKE.

On a pole.....	24	.....	.....	Catoptric.....	Red light.
Square, wood, white.....	30	24	.....	do	Midway between Coteau and Cherry Island.
do do	40	30	1847	do	
do do	.....	.....	1849	do	Opposite the light there is a beacon north of the channel.
do do	20	20	1844	do	
.....	.....	.....	1865	do	Variation in 1869, 9½° W. In charge of the Superintendent of Public Works.

AND ONTARIO LAKES.

Round building, 62 feet high	92	.....	.....	Catoptric.....	White light.
Square wooden building 27 feet high, painted white.	42	.....	.....	do	do
Square wooden building 27 feet high, painted white, with keeper's dwelling attached.	42	.....	.....	do	do
White, square, wood.....	33	31	1856	do	
do do	55	37	1856	do	
do do	40	26	1856	do	

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LIST of Lights in the Dominion of Canada, under the charge

BETWEEN ST. FRANCIS AND

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Gananoque Narrows.	N.E. end of Little Stave Island, south side of channel, 5 miles below Gananoque.	44 20 50	76 4 10	One.....	F	.....	
Jack Straw Shoal..	On a pier north side of channel, 3 miles below Gananoque.	44 21 0	76 6 30	One..	F	.....	
Spectacle Shoal....	On a pier north side of channel, 2 miles west of Gananoque.	44 20 15	76 10 40	One.....	F	.....	9
Red Horse Rock...	On pier south-east side of channel, half mile west of Jack Straw Shoal.	44 19 30	76 11 20	One.....	F	.....	....
Burnt Island	South-east point of Island, north side of channel, ¾ of a mile from Spectacle Shoal.	44 19 5	76 11 40	One	F	.....	10
Wolfe Island	On Quebec or East point.	44 14 40	77 16 20	One	F	.....	6

LAKE

Snake Island	On pier on bar, north side of channel, 5 miles west of Kingston.	44 11 30	76 37 40	One	F	.. ..	6
Simcoe or Gage....	South-west point Simcoe Island, 9 miles west of Kingston.	44 9 20	76 38 40	One	F	....	15
Pigeon Island	Four miles from head of Wolfe Island.	44 4 10	76 38 10	One	Rev	One minute, 10 seconds.	15
Outer Drake or False Ducks.	East point of Island.	43 57 0	76 49 0	One	F	.....	22
Point Pleasant	Entrance to Bay of Quinté	44 6 30	76 55 30	One	F	.....	10½
Point Peter.....	On point.....	43 51 0	77 13 40	One	Rev	Every minute & 40 seconds.	21
Salmon or Wicked Point.	On the point.....	43 52 0	77 19 45	One	F	.....	....
Telegraph Island ..	Bay of Quinté	44 10 20	77 9 45	One	F	.....	12
Scotch Bonnet or Egg Island.	On small island, 1 mile south-west of Nicholson's Island.	43 54 0	77 38 0	One	F	.....	12
Presqu' Isle	East point.....	43 59 30	77 45 30	One	F	.....	18
	On a hill in shore	44 0 20	77 46 0	Two, W.S.W., and E.N.E. nearly.	F	.....	3or4
Cobourg.....	Pier head.....	43 57 10	78 14 0	One	F	.....	8
Peter Rock or Gull Island.	West by South, 4 miles from Cobourg.	43 56 10	78 17 0	One	F	.....	10

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of the Department of Marine and Fisheries.—*Continued.*

ONTARIO LAKES.—*Continued.*

Colour or peculiarity of Lighthouse.	Height of feet in centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
White, square, wood.....	44	37	1856	Catoptric	These small lights are for the purpose of marking out the channel through the Thousand Islands, between Brockville and Kingston. Variations in 1870, 7° 15′ W.
do do	31	29	1856	do	
do do	28	26	1856	do	
do do	28	26	1856	do	
do do	64	26	1856	do	
do do	.....	.....	1856	do	
ONTARIO.					
Stone, square	35	35	1858	do	Red light.
Round, stone, white.....	45	40	1833	do	A fog bell is stationed here, and will be sounded in thick and foggy weather and during snow storms, during navigation. Bell operated by machinery 4 times each minute. Heard distance of 4 miles.
White.....	46	41	1870	do	
do	68	62	1828	do	
Octagon.....	.....	52	1866	do	
Round, stone.....	62	60	1833	do	Variations in 1869, 6° W.
Square building surmounting keeper's dwelling, and painted white.	40	.....	1871	do	Red light.
Square tower, on dwelling, white.	46	41	1870	do	
Stone, white.....	51	54	1856	do	
Octagon, stone, white	67	63	1840	do	
.....	.....	.....	1851	do	
Square, wood, white	20	16	1844	.....	Harbor light not under Marine Department.
Octagon, stone.....	45	48	1840	.....	On a rock off the point.

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LIST of Lights in the Dominion of Canada, under the charge

LAKE ONTARIO.—

Name of Light.	Place.	Latitude N.	Longitude N.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Port Hope	Pier head, East side	43 56 15	78 20 0	One	F		4½
Darlington	Pier head	43 52 30	78 43 20	One	F		4
Oshawa Port	Pier head	43 52 0	78 52 30	One	F		
Whitby Harbor	West pier	43 51 0	79 1 30	One	F		5
Pickering or Liverpool.	East pier head	43 48 45	79 7 20	One	F		
Toronto	Gibraltar Point, South-west side of point, 1¾ miles south of Toronto.	43 37 0	79 28 30	One	F		18
	Queen's Wharf, west part, the other on arm of pier	43 38 20	79 28 45	Two	F		6
Port Credit	On pier	43 33 30	79 40 10	One	F		
Oakville	Pier head	43 26 45	79 45 20	One	F		12
Burlington Bay	South pier of entrance	43 18 0	79 53 30	Two	F		15 4
Dalhousie Harbor	East pier head	43 13 40	79 20 30	One	Rev		10
Fox Island	Lake Simcoe	44 19 30	79 30 0	One	F		12

LAKE

Colborne Port and Range Light.	West pier head	42 53 0	79 19 30	Two	F		12
Mohawk Island	On an island between Colborne and Maitland Ports, 1 mile south-west of mainland	42 50 10	79 37 0	One	Rev	Every 3 minutes	16
Port Maitland	West pier	42 51 40	79 39 50	One	F		10
Port Dover	West pier	42 47 30	80 16 30	One	F		8
Long Point or North Foreland.	East extremity	42 33 0	80 9 10	One	F		25
Big Otter Creek, or Port Burwell.	333 yards in shore	42 39 0	80 54 30	One	F		12
Catfish Creek, or Port Bruce.		42 39 20	81 5 40	One	F		
Port Stanley	Extreme of West pier	42 40 0	81 17 0	One	F		4
Pelee Island	N.E. point	41 50 20	82 45 30	One	F		9
Pelee Spit	On caisson 2½ miles south from extreme end of point from north shore	41 52 20	82 38 0	One	Rev		20
Middle Island	Between Pelee and Kelly's Island.	41 40 58	82 40 15	One	F		12
Amherstburg	Bois Blanc Island, south point.	42 6 0	83 13 30	One	F		18

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of the Department of Marine and Fisheries.—*Continued.*

Continued.

Colour or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
.....	.....	.....	.....	.....	Red facing South, white facing East and West. Harbor light not under Marine Department.
On a stone house.....	.....	.....	.....	.....	Variation in 1869, 3° 30′ W. Harbor light not under Marine Department.
.....	.....	.....	1863	.....	Not under Marine Department.
Square, wood	12	8	1844	.....	Not under Marine Department.
.....	.....	.....	1863	.....	Not under Marine Department.
Hexagonal, stone	66	62	1820	.....	A fog bell is placed on this station.
Wood square, red	22	6	1838	.....	Red light is on the arm of the pier to be passed closely on port hand. Variation in 1868, 2° 50′ W. Harbor light not under Marine Department.
.....	.....	.....	1863	.....	Not under charge of Marine Department.
Octagon, wood.....	42	36	1836	Catoptric.	
High light, stone building.	60	54	1838	do	
Small light, wood, white....	18	14	1845		
Wood, white.....	53	44	1852	do	Entrance to Welland Canal.
Brown, square tower	46	39	1870	do	

ERIE.

Wood, white.....	58 14	54 10	1852	do	Entrance to Welland Canal.
Round, stone, white.....	64	60	1848	do	Variation in 1870, 2° 40′ W.
Hexagon, wood, white.....	.....	.....	1848	do	Grand River entrance.
do do	20	20	1846	do	
Octagon, wood.....	65	60	1843	do	Variation in 1870, 1° 40′ W.
do	96	46	1840	do	
On a pole.....	.....	.....	.....	do	Light not under Marine Department.
Lantern	20	20	1844	do	
Round, stone	45	40	1833	do	W. by N. clears Pelee Shoal. Variation in 1870, 9° 45′ E. On 21st Sept., 1872, Pelee Island Light changed to a fixed white light, and Pelee Spit to a revolving white light.
Octagon	76	61	1861	do	
Square, wood, white	70	49	1872	do	Red light.
Round, stone	56	40	1837	do	

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LIST of Lights in the Dominion of Canada, under the charge

LAKE

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F. ; Fl. ; F. & Fl. ; Rev. ; Int. ; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Thames River.....	Mouth of river, South shore.	42 18 40	82 36 0	Two S. 26° E., & N. 26° W., 450 yards apart.	F	.....	12 6

LAKE

Goderich	On high bank south of entrance to harbor. Two on North pier.	43 45 10	81 32 30	Three	F	.....	25 the high lig't
McKenzie's Wharf Presqu'Isle.	Owen Sound, Georgian Bay, Ontario.	44 41 30	80 53 40	One	F	.....	12
Point Clark	North shore, about 20 miles North-east from Goderich.	44 4 40	81 34 30	One	Rev	Every ½ minute.	15
Chantry Island ...	South side, about 2½ miles West from Saugeen.	44 29 40	81 13 0	One	F	.....	15
Isle of Coves	North-east point of island, entrance to Georgian Bay.	45 19 40	81 32 10	One	Rev	Every 3 minutes. Interval of light 1½ minute.	15
Griffith Island, N .	North-east end of island, 20 miles from Owen Sound	44 50 30	80 42 40	One	F	.....	12
Nottawasaga Island	About 4 miles North-west from Collingwood.	44 32 30	80 4 20	One	Fl	Every ½ minute.	10
Collingwood	Breakwater pier.....	44 31 0	80 2 10	One	F	.....	6
Michael's Point ...	Michael's Bay, south side of Grand Manitoulin.	45 34 20	81 56 0	One	F	.....	13
Christian Island .	S.E. part of island, 1½ mile from main land.	44 47 20	79 57 30	One	F	.....	8
Parry Sound	Mink Island.	45 22 0	80 12 45	One	F	.....	16
Lonely Island	.. . .	45 33 30	81 15 48	One	F	.....	20
Byng Inlet	....	45 44 12	80 27 30	.....	F	.....	....
Red Rock	One mile East of Killarney, on Red Rock Point.	45 58 40	81 16 30	Two	F	.....	8
Partridge Island ..	1½ mile North-west of Red Rock light.	45 59 20	81 19 50	One	F	.....	5
Range Lights	Shaftesbury or Little Current.	45 59 30	81 47 40	Two	F	.....	6
Clapperton Island .	North Point	46 3 0	82 5 0	One	F	.....	8
Sulphur Island ...	West end of island.....	46 9 0	83 30 0	One	F	.....	12

LAKE

Point aux Pins ...	St. Mary's River, near the Sault.	46 28 30	84 40 50	One	F	..... .	8

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of the Department of Marine and Fisheries.—*Continued.*

ST. CLAIR.

Colour or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square, wood, stone, round tower.	34 15	30 15	1837 1845	.....	The two lights in one lead over bar.

HURON.

Square tower, white	150	20	1847	Catoptric.....	Variation in 1870, 0° 50′ W. Light on bank only in charge of Marine Department.
Square wooden building, 27 feet high, painted white	35	.....	.....	do	White light.
Round, white..	87	87	1859	Dioptric, Second order	
do	86	86	1859	do	
Round, white.	90	85	1859	do	Variation in 1870, 0° 50′ W.
do	130	85	1859	Dioptric, Third order.	
do	86	85	1859	Dioptric, Second order.	
On frame work	24	.....	1858	Catoptric.....	Red light. Not under Marine Department.
White, square	40	28	1870	do	
White, round.....	61	60	1859	Dioptric, Fourth order.	
Square tower on keeper's dwelling, white.	56	40	1870	Catoptric.	
White, square	195	42	1870	do	
On wood work...	.....	60	1870	do	
Wood, square, white	80 20	20 12	1866	do	At North side of channel leading into Killarney Harbor.
do	30	20	1866	do	
do	24 22	....	1866	do	
do	.....	35	1866	do	
Square tower, wood, white.	45	20	1867	do	

SUPERIOR.

Square wooden building, 23 feet high, painted white.	30	.....	.....	Catoptric.	

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LIST of Lights in the Dominion of Canada, under the charge

LAKE SUPERIOR.

Name of Light.	Place.	Latitude N.	Longitude.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev., Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Corbay Point	Batchewana Bay, 40 miles above the Sault.	46 54 0	84 50 30	One	F	.....	20
Porphyry Point ...	Entrance of Black Bay, Edward Island, Algoma, Lake Superior.	48 21 5	88 51 30	One	F	.....	16
St. Ignace	3 miles from St. Ignace Island.	48 42 15	88 10 30	One	F	.....	8
Michipicoten Island	South point Michipicoten Island.	47 42 15	86 1 35	One	F	.....	18
Quebec Harbor, near Michipicoten Island Harbor.	Agate Island, in Quebec Harbor.	47 42 50	86 2 10	One	F	.....	10

NEW BRUNS

GULF OF ST.

Dalhousie	South side of entrance of harbor.	48 3 45	66 20 50	One	F	.....	12
Bathurst	On Alston Point.....	47 39 10	65 36 40	Two	F	.....	10
Caraquet.....	Caraquet Island, Bay des Chaleurs.	47 49 40	65 54 0	One	F	.....	14
Shippegan	On Island, Shippegan Harbor.	47 43 0	64 38 0	One	F	.....	11
Miscou Island.....	Birch Point	48 1 0	64 29 25	One	F	.....	12
Tracadie.....	North side Tracadie Gully	47 30 0	64 52 0	One	F	.....	12
Tabusintac	Crab Island, Northumberland County.	47 18 53	64 59 30	One	F	.....	7
Neguac	Northumberland County	47 17 47	65 3 20	One	F	.....	11
Portage Island	On south point of island .	47 9 50	65 2 40	One	F	.....	12
Fox Island.....	North-west point of island	47 8 10	65 2 30	Two	F	.....	10
do	East end of island.....	47 6 50	65 0 10	Two	F	.....	10
Light ship	Horse Shoe Bar, between Fox and Portage Islands, Miramichi Bay	47 8 0	65 3 0	One	F	.....	8
Sheldrake Island Beacons.	Miramichi Bay.....	47 6 50	65 18 0	Two	F	.....	9
Oak Point.....	Miramichi Bay	47 7 40	65 15 10	Two	F	.....	10
Grant's Beach.....	Miramichi Bay	47 5 30	65 28 10	Two, bearing S.W. & N.E. from each other.	F	.....	10
Preston Beach.....	Miramichi Bay	47 4 50	65 54 40	Two	F	.....	10
Escuminac Point ..	On the point.....	47 4 32	64 47 30	One	F	.....	14

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of the Department of Marine and Fisheries.—*Continued.*

—*Continued.*

Colour or peculiarity of Lighthouse.	Height in feet of centre of lantern above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Octagonal wooden building, 63 feet high, with dwelling attached, and painted white.	.....	.....	.....	Catoptric.	
Square wooden building, 36 feet high, painted white.	56	.....	.....	Catoptric.....	This light is for general purposes of navigation, and for guiding vessels to Silver Islet. White light.
Square tower, wood, white.	.....	.....	1866	do	Discontinued until further notice, 1873.
Square, wood, white	56	32	1872	.....	
do do	32	20	1872	....	

WICK.

LAWRENCE.

Square, wood, white.....	49	33	1870	Catoptric.....	Seen from all points of approach.
Beacon lights, hexagonal white.	31½ 27	....	1871	do	The lights are for the purpose of guiding vessels into the harbor, by keeping them in range. Inner light is highest, and shows red; outer light white.
Square tower on keeper's dwelling, white.	52	48	1870	do	
Square, wood, white.....	32	20	1872	do	
Wood, octagon, white.....	79	74	1856	do	Red light.
Wood, square, white.....	39	20	1872	do	
Square, wooden, white	30	20	1873	do	Coast and harbor light. Red light.
do do	35	20	1840	do	Coast and harbor light, situated north-east side of Gully.
White.....	46	42	1869	do	
Wood, white.....	50	.....	.....	do	Two beacon lights ½ mile apart, to guide vessels through the Swashway Channel
do	30	.....	1872	do	
.....	35	.....	1873	do	A schooner-rigged ship.
½ mile apart	48	.....	.....	do	
Wood, white.....	40 60	....	1869	do	Two beacon lights ½ mile apart, to guide vessels through the Swashway Channel
White..... ...	120 140	....	1869	do	do do
do	55 66	....	1869	do	do do
Wood, white.....	70	58	1841	Dioptric, Third order.	Variation in 1869, 23° 20′ W.

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LIST of Lights of the Dominion of Canada, under the charge

NEW BRUNSWICK.

GULF OF ST.

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Richibucto	On the head	46 39 40	64 42 30	One	F		14
Cassie's Point	On the point	46 19 15	64 30 20	One	Rev	Flash every alternate ½ min.	14
Shediac Beacons	Shediac Island	46 15 20	64 31 50	Two	F		10
Shediac	Du Chêne Wharf	46 14 20	64 31 0	One	F		6
Jourimain	On Cape Jourimain	46 10 0	63 49 30	One	F		15

PRINCE EDWARD

North Point	On the point	47 3 46	63 59 10	Two	F		12
Cascumpec, north side.	Sandy Island	46 48 22	64 2 15	One	F		12
Bedeque Bay	Green's Wharf	46 23 32	63 47 5	One	F		7
Sea-cow Head	Salutation or Sea-cow Head.	46 19 0	63 48 30	One	F		15
East Point	200 yards in shore from south part of point.	46 27 9	61 58 15	One	F		9
Charlottetown Harbour.	Block-house Point, west side of entrance.	46 11 36	63 7 28	One	F		10
Point Prim	Hillsborough Bay, 100 yds. from the point, south-east part of bay.	46 3 10	63 2 6	One			12
Little Channel		46 40 0	63 53 0	Two	F		9
Panmure Head	Cardigan Bay, Georgetown harbor, south entrance.	46 8 47	62 27 40	One	F		16
Georgetown	St. Andrew Point	46 9 57	62 31 23	One	F		10
Richmond Harbor.	Bill Hook or Fishery Island, north side of entrance.	46 34 44	63 42 29	One	F		10
Crapaud	Crapaud	46 13 0	64 8 0	One	F		3
Summerside	Summerside	46 24 0	64 8 0	One	F		7
Murray Harbor	Murray Harbour	46 0 2	62 25 57	Two	F		5
St. Peter's	St. Peter's Harbour	46 32 0	62 34 0	Two	F		6
Tracadie	Tracadie Harbor	46 13 0	63 10 0	Two	F		12

NOVA

GULF OF ST.

Pugwash	Pugwash Harbor	45 52 30	63 40 20		F		8
Amet Island	Centre of island, Northumberland Strait.	45 50 15	63 10 10	One	F		10

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of the Department of Marine and Fisheries.—*Continued.*

—*Continued.*

LAWRENCE.—*Continued.*

Colour or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square tower, white.....	70	50	1864	Dioptric, Fourth order.	
Square, wood, white.....	40	27	1872	Catoptric.	
White.....	48 56	....	1869	do	
On a pole.....	15	.....	1860	do	Not under control of Marine Department.
White, octagonal..... ...	72	45	1870	do	Visible from S.E. round by N. to W.

ISLAND.

White.....	80	60	1866	.....	White light.
Octagon tower, wood, white	33	25	1856	Catoptric.....	do
Lantern on a pole..... ..	15	.....	1856	.....	do
White, octagon	88	60	1863		
Wood, octagon, white.....	130	60	1867	.....	do
On roof of square block-house, white.	37	19	1851		
Brick, white, circular.....	68	55	1846	.....	Several buoys mark the dangers in the bay.
White beacons.....	22	.....	1872	....	
Wood, octagon, white....	96	50	1853	Catoptric.....	The light should be kept open off Terras Point, to clear reef off Bear Cape.
Red and white striped, vertical	36	20	1868	Lantern with coal oil.	
White, square	40	36	1856		
Post	34	32	.....		
Drab colour, octagon.....	20	16	1854	....	White light.
One on post, and other on gable of a barn, about a mile apart.	30 on p'st, 45 on brn	.....	.....	.....	Both white lights.
Red beacons.....	20	26	1868	Dioptric, 1st ord'r	White light.
Posts	40	.....	.....	.....	do

SCOTIA.

LAWRENCE.

Square, white.....	48	44	1871	Catoptric.....	Shows red seaward, and white towards the harbor.
Square, wood, white.....	44	26	1866	do	Visible round horizon.

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LIST of Lights in the Dominion of Canada, under the charge

NOVA SCOTIA.

GULF OF ST.

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Caribou Island	North-east part	45 46 0	62 42 20	One	Rev	Every minute.	16
Pictou Harbor	South point of entrance.	45 41 25	62 39 26	Two, vertical, upper white, lower red, 25 feet apart.	F	.....	11
Pictou Island	South-east point	45 49 10	62 30 29	One	F	.....	12
Cape St. George...	On north side of Cape...	45 52 35	61 54 40	One	Rev	Every ½ minute.	25
Pomquet, St. George Bay.	North-east end of island.	45 39 40	61 44 30	One	F	.....	9

CAPE BRETON

Port Hood	South entrance of Harbor	46 0 0	61 31 40	One	F	.. ..	10
Sea Wolf or Margaree Island.	Summit or middle of island.	46 21 30	61 15 33	One	F	.....	21
Cheticamp	Near south end of island.	46 36 32	61 3 10	One	Rev	Flash every 45 s.	20
Ingonish	Ingonish Island.....	46 41 20	60 29 0	One	F	.....	15
Bird Island.....	Ciboux Island, ½ of a mile from north end.	46 23 10	60 22 30	One	Rev	Every minute...	14
St. Ann's Harbor...	On north point of beach.	47 17 30	60 32 15	.....	F	.....	8
Black Rock Point..	South side of entrance to Big Bras d'Or.	46 18 30	60 23 30	One	F	.....	....
Low Point	Flat Point East side of Spanish Bay.	46 16 30	60 7 30	One	F	.....	14
Flint Island.....	On island.....	46 11 5	59 46 50	One	Rev	Every 15 seconds	12
Scatterie Island....	North-east point on Trap Rock.	46 2 13	59 40 18	One	Rev	Visible a minute, eclipsed half a minute.	15
Main-a-Dieu.....	On the south side of West Point of Scatterie Island	46 0 30	59 47 30	....	F	.....	9
Louisburg Harbor..	North side of entrance, 60 fathoms in shore of point	45 54 34	59 57 15	One	F	.....	16
Green Island	Summit of island	45 28 51	60 53 40	One	F	....	14
Sydney Harbor....	On west end of South Bar	46 12 40	60 12 40	One	F	.....	10

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of the Department of Marine and Fisheries.—*Continued.*

—*Continued.*

LAWRENCE.—*Continued.*

Colour or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square, white.....	35	26	1868	do	
Octagon, wood, striped red and white vertically.	65	55	1834	do	Lighted when the navigation is free from ice. A small red light is seen below lantern; kept W.S.W. clears the E., reefs off Pictou Island. Variation in 1870, 22° 40′ W.
Square, white	52	.....	1853	do	
do	350	39	1861	do	
do	50	23	1868	do	Red light, visible from west round north to south.

ISLAND.

Square, tower, white.....	55	.....	1854	do	Red light on north side, white light on south side.
do	296	.....	1854	do	To vessels in dangerous proximity to the island the light may become obscured by the abrupt cliffs on the sides of the island.
Square, wood, white.....	149	24	1872	do	
....	237	40	1871	Dioptric, Fifth order.	
.....	77	33	1863	Catoptric.....	Alternate white and red flashes.
White.....	24	30	1871	do	The light exhibited to find entrance through on a dark night.
White, square	45	23	1868	do	
Octagon, red and white, vertical.	70	51	1832	do	Variation in 1869, 25° 45′ W.
Octagonal, white.....	65	43	1856	do	Visible round compass.
do	90	70	1839	Catoptric lights with parabolic reflectors and argand burners	The light should never be brought to bear to eastward of N.N.E., or to southward of S.S.W., nor approached nearer than 1½ mile. A boat is here to render assistance.
Square, wood, white.....	90	40	1871	Catoptric.....	Red light.
White, with a black vertical stripe.	85	35	1842	Catoptric lights with parabolic reflectors and argand burners	On keeper's dwelling. Variation in 1869, 26° W.
Wood, square, white.....	70	31	1865	do	Red light, centre of keeper's dwelling, visible round horizon.
do	30½	20	1872	do	Red light.

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LIST of Lights in the Dominion of Canada, under the charge

NOVA SCOTIA.—

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Canso Cape	North part of Cranberry Island.	45 19 50	60 55 29	Two, in one tower, vertically, 12 yards apart.	F	.....	upper 15 lower 9
Canso Harbor	On Hart or Cutler's Island	45 21 0	60 58 31	One	F	.....	12
Arichat Harbor	Marache Point, south entrance Madame Island.	45 29 2	61 1 52	One	F	.....	8
Arichat Harbor	On Jerseyman Island	45 30 20	61 3 4	One	F	.....	11
Guysboro' Harbor	West side of entrance, near Peart Point, Chedabucto Bay.	45 22 47	61 29 11	One	F	.....	8
Sand Point	South entrance, Eddy or Sand Point.	45 31 30	61 14 40	Two, horizontal, 8 yards apart.	F	.....	8
Point Tupper	Ship Harbor	45 36 40	61 22 0	One	F	.....	7
North Canso	North entrance, west side, 120 yards in shore.	45 41 42	61 29 10	One	F	.....	18
White Head Island	South-west extremity	45 11 58	61 8 15	One	Rev	Every 20 seconds	11
Green Island	Guysboro' County	45 6 18	61 32 31	One	F	.....	14 to 16
Liscomb	On Liscomb Island	44 59 20	61 57 51	One	Rev	Red and white flash every 2 min	15
Beaver Island	South-east part of East Beaver or William Island	44 48 10	62 20 30	One	Rev	Every two minutes.	12
Egg Island	Centre of Island	44 39 51	62 51 32	One	Rev	Every minute	15
Sable Island	1½ mile from east end	43 58 30	59 46 0	One	F	.....	18

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of the Department of Marine and Fisheries.—*Continued.*

Continued.

Colour or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Wood, octagon, striped red and white horizontally.	75 40	60	1815	Catoptric lights with parabolic reflectors and argand burners	A steam fog whistle about 100 yds south of the lighthouse; in thick weather it will be sounded eight seconds in each minute.
Wood, square, white	42	28	1872	do	Red light.
do do	34	.....	1851	do	
do do	39	28	1872	Catoptric.....	do
do do	30	20	1864	do	Variation in 1869, 23° 10′ W.
do do with a black diamond.	25 each	.....	1851	do	Lights in windows at each end of building.
Square, white.....	44	24	1870	Catoptric.....	Red light. In consequence of the intervention of the land on the south side, can only be seen 3 miles in that direction.
Wood, square, white	110	35	1842	do	There is a good anchorage under the light with the wind off shore. Lantern on keeper's dwelling.
Wood, pyramidal, octagonal lantern.	55	35	1854	do	Light not totally obscured during the eclipses; 10 seconds duration flash, and 10 seconds eclipse.
Square wooden building, 28 feet high, painted white.	51	28	1873	do	For the purpose of a coast light, and to guide vessels frequenting Country and Fisherman's Harbors.
Wood, square, white	64	28	1872	do	
White, with two black balls seaward, S.S.W.	70	35	1846	do	On house.
Wood, octagonal, black and white vertical stripes on seaward side.	80	45	1865	do	Alternate white and red faces, visible round horizon.
Octagonal, white and brown alternately.	128	86	1873	Dioptric, Second order.	In thick and foggy weather and snow storms, a steam fog whistle 50 yards south of the lighthouse is sounded three times in each minute as follows:—First, a blast of three seconds, then an interval of three seconds; then another blast and interval of the same duration; and then a blast of three seconds, with an interval of forty-five seconds, to complete the minute. The whistle will probably be heard, in calm weather or with the wind, from 10 to 15 miles; in stormy weather or against the wind, from 3 to 6 miles.

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LIST of Lights of the Dominion of Canada, under the charge

NOVA SCOTIA.—

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Light and relative positions.	F.; Fl.; F. & Fl.; Rev; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Sable Island... ...	West end.....	43 57 0	60 8 0	One.....	Rev	Revolves in three minutes, showing three flashes at intervals of half a minute, then a cessation of light during 1½ minute in each revolution	18
"Halifax" (light-ship).	Halifax Harbour.....	44 24 20	63 27 30	.....	....	.....	....
Devil's Island.....	Devil Island, south-west part, east entrance to harbor.	44 34 48	63 27 15	One.....	F	.....	8
Mullin's Point.....	North side of entrance to Wallace Harbor, Cumberland County.	45 49 45	63 25 16	One.....	F	....	11
Meagher's Beach...	Sherbrook Tower, Meagher's Beach, east side of entrance.	44 36 6	63 31 55	One.....	F	....	12
Chebucto Head....	West side entrance Halifax Harbor.	44 30 21	63 30 49	One.....	Rev	White flash every minute.....	18
Sambro'....	Middle of island	44 26 11	63 33 30	One	F	....	20 or 21
Peggy's Point.....	East side of entrance to St. Margaret's Bay.	44 29 30	63 55 0	One.....	F	....	....
Walton Harbor Light.	Basin of Mines, Hants County.	45 14 0	64 0 45	One.....	F	.....	10
Mahone Bay	Hobson's Nose, Mahone B	44 24 56	64 13 46	One	F	.....	11
Chester, Mahone Bay.	East Ironbound Island, Little to Eastward of centre of island.	44 26 10	64 4 50	One	F	.....	16
Cross Island.....	Cross Island, East point Lunenburg Bay.	44 18 43	64 9 57	Two, vertical 15 yards apart.....	Upper Fl lower F.	Every min..	Upper 14 lower 6.
Shelburne Harbor..	Entrance to Shelburne Harbor, Shelburne Co.	43 41 15	65 19 5	One.....	F	....	11
Green Island	Margaret's Bay, Lunenburg County.	44 23 0	64 2 45	One.....	Rev	Alternate red and white flashes every minute and a half. Complete revolution in 3 minutes.	....

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of the Department of Marine and Fisheries.—*Continued.*

Continued.

Colour or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Wood, octagonal, white ...	123	98	1873	Catoptric.....	In thick or foggy weather and snow storms a steam fog whistle is sounded eight seconds in each minute, leaving an interval of 52 seconds between each blast. The whistle will probably be heard in calm weather or with the wind from 10 to 15 miles, and in stormy weather or against the wind from 3 to 6 miles.
.....	.....	.....	.....	.....	Withdrawn from her station, 27th Nov., 1873, owing to severe storm.
Octagonal, dull red, with white belt.	45	.....	1852	do do	Dull red to seaward. Pilots are stationed here.
Square wooden building, 25 feet high, painted white.	36	.....	.....	do	For guiding vessels in and out of Wallace Harbor.
White, circular roof, red.	58	48	1815	do	When Sambro' light bears W.S.W., this light should not be brought to the westward of north, which clears the Thrum Cap Shoal. Variation in 1869 20° 10' W.
Square, wood, white.....	132	22½	1872	....	
Octagonal, white.....	115	60	1758	do	Guns will be fired during thick or foggy weather from the signal station on Sambro', as follows:—Guns from ships will be answered by the discharge of two 24-pounders in quick succession, and the same reply will be made from the island to the sound of a steamer's whistle.
White, square.....	65	26	1868	do	Red light, lantern on dwelling.
Square wooden builing. 20 feet high, painted white.	60	.....	.....	do	For the purpose of guiding vessels into Walton Harbor.. Red light.
Wood, square, white	68	29	1872	do	Red light.
Oblong, white, wood lantern and tower on keeper's dwelling.	150	46	1871	Dioptric.....	Seen from all points of approach. The lantern alone is visible; building hidden by trees.
Red, octagonal base.....	190 65	53	1832	Catoptric lights with parabolic reflectors and argand burners	Pilots resort here; and vessels might take refuge in case of necessity. Upper bright, 45 seconds; dark, 15 seconds. Variation in 1869, 19½° W.
Square wooden building, 20 feet high.	67	.....	.....	Catoptric...,...	The light is for the purpose of guiding vessels into harbor, and to mark the dangers of Sand Point.
Square wooden building, 28 feet high, painted white, with dwelling attached.	.....	.....	.....	do	For purpose of a coast light.

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LIST of Lights of the Dominion of Canada, under the charge

NOVA SCOTIA:—

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Port Mouton.....	Spectacle Island, Queen's County, north-east point	43 55 3	64 48 8	One.....	F	.....	11
Lunenburg or Battery Point.	....	44 21 41	64 17 36	One.....	F	.....	12
Moser's Island ...	On island, west side of entrance to Le Have River.	44 14 15	64 18 50	One	F	.....	....
West Ironbound Island, south side	Near Cape Le Have, mouth Le Have River.	44 13 43	64 16 19	One.....	Rev	Every 30 seconds	13
Port Medway	Medway Head, west side entrance.	44 6 10	64 32 14	One	F	.....	10
Liverpool	Coffin Island, south point, Liverpool Bay.	44 1 58	64 37 34	One..	Rev	Every 2 minutes.	16
Fort Point	Fort Point, Liverpool Bay, south entrance.	44 2 30	64 42 20	One	F	.....	7
Little Hope.....	Nearly on centre of island	43 48 31	64 47 15	One	Rev	Every minute...	12
Port Hebert..	Eastside Port Hebert Har	43 48 40	64 55 24	One	F	.....	10
Ragged Island Harbor.	Gull Rock.....	43 39 14	65 5 50	One	F	.....	10
Cape Roseway, Shelburne Harbor....	Near south-east entrance of Macnutt Island.	43 37 17	65 15 45	Two, vertical, 21 yds. apart.	F	.....	Upper 18 lower 10
Negro Island.....	On Negro Island.....	43 30 54	65 20 58	One	Rev	Red and white flashes every minute.	12
Barrington	Baccaro Point, west side entrance.	43 26 54	65 28 12	One	F	.....	10
Carter's Island	Ragged Island Harbor ..	43 42 15	65 5 29	One.....	F	.....	11
Cape Sable.....	On Cape.....	43 28 19	65 37 11	One..... ...	Rev	Bright 15 seconds dark 25 seconds.	12
Pubnico Harbor. .	Beach Point, east side of entrance, 60 fathoms from low water mark.	43 35 45	65 46 54	One.....	F	....	8
Tusket River.....	Big Fish Island, south-west point.	43 42 10	65 57 15	Two, horizontal 8 yds. apart.	F	.....	12
Yarmouth Harbour	On end of reef off south-west point of Bunker's Island, east side of entrance to harbour.	43 48 30	66 8 45	One, red.....	F	....	10

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of the Department of Marine and Fisheries.—*Continued.*

Continued.

Colour or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square wooden building, 20 feet high.	47	.....	.....	Catoptric.....	The light is for the purpose of guiding vessels into harbor.
Square, white.....	50	24	1864	Catoptric lights with parabolic reflectors and argand burners	On top of dwelling house, which is white.
Square, white	55	26	1868	do	Red light.
Square, tower, white.....	72	29	1855	do	Near the edge of a cliff, 40 feet high.
Square, white, with black square seaward.	44	23	1851	do	Like a dwelling house.
Octagon base, horizontal stripes red and white, eight in number.	65	59	1812	do	Light, 30 seconds; dark, 90 seconds. Variation in 1869, 18¼° W.
Square, white.....	30	17	1855	do	Red light, left on port side when entering the harbor.
Square, white.....	40	26	1865	do	Red light, centre of keeper's dwelling, visible round horizon.
Wood, square, white.....	33	29	1872	do	Red light.
Square, white	56	31	1853	do	
Octagonal, vertical stripes black and white.	120 65	77	1788 rep'r'd 1858	do	Variation in 1869, 17¾° W.
Square, wood, white	48	29	1872	do	
Square, white, with black ball seaward.	49	35	1850	do	Red light.
Wood, square, white.....	66	29	1872	.....	Red light.
White, octagon.....	53	50	1861	Catoptric lights with parabolic reflectors and argand burners	Variation in 1869, 17° 10′ W.
Square, white.....	28	20	1854	do	Open westward of St. John's Island, bearing N.E. by N. clears the ledge; making harbor from any other direction, the light must be brought to the northward of E.N.E. before it can be steered for to avoid shoal spot off St. Ann's Point.
Wood, white, square	.....	.....	1864	do	Visible seaward; in windows each end of a dwelling house.
The lantern on a dwelling-house, built on a wooden pier, the whole forming a beacon.	27	.....	1874	Catoptric.....	A red light for the purpose of guiding vessels into the harbour. Visible from the southward between the bearings of N.E. by N. and N. ¾ E. It can also be seen over Stanwood's Beach, when bearing from S. ½ E. to S.E. ½ E., but cannot be run for on these bearings, the only entrance to the harbour being through Yarmouth Sound and round Cape East.

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LIST of Lights of the Dominion of Canada, under the charge

NOVA SCOTIA

BAY OF

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Seal Island.....	South point, ½ of a mile inland.	43 23 34	66 0 52	One.....	F	.....	18
Yarmouth or Cape Forchu.	East Cape, south point..	43 47 28	66 9 21	One.....	Rev	Every minute and 45 seconds.	18
Cape St. Mary	East side of bay.....	44 5 20	66 12 40	One.....	Rev	Every 30seconds, red and white alternately.	....
Sissiboo	South side of entrance of river.	44 26 30	66 1 15	One.....	F	.....	8
Brier Island.....	North-west point.....	44 14 57	66 23 30	One.....	F	....	1
Westport	Peter's Island, south entrance to Grand Passage.	44 15 30	66 20 20	Two, horizontal, 24 feet apart.	F	.....	10
Boar's Head.....	Boar's Head, 50 feet from edge of cliff.	44 24 16	66 13 0	One.....	Rev	Alternate red and white flashes every minute.	....
Digby or Annapolis.	Prim Point, south point of entrance.	41 34	65 47 20	One..... ..	F	.....	13
Cape Spencer.....	Pitch of Cape.....	45 12 30	65 54 0	One.....	Rev	Alternate red and white for periods of 45 seconds each, and an interval of 45 seconds.	20
Marshall Cove or Port Williams.	South shore, Bay of Fundy	44 56 52	65 16 0	Two, vertical, 20 feet apart	F	.....	10
Margaretsville.....	do do ..	45 2 57	65 4 0	Two	F	.....	8
Black Rock	South shore.....	45 10 10	64 46 0	One.....	F	....	12
Horton.....	On bluff, west side of Avon River.	45 6 15	64 13 30	One.....	F	.....	20
Burnt Coat Head..	Basin of Minas, south shore.	45 18 40	63 48 30	One.....	F	.....	13

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of the Department of Marine and Fisheries.—*Continued.*

—*Continued.*

FUNDY.

Colour or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Octagon, white	98	60	1830	Dioptric, Second order.	The Blond Rock lies S. by W. 3⅛ miles from lighthouse; variation in 1869, 16°48′W. Fog whistle near lighthouse.
Octagon, vertical stripes, red and white.	117	59	1839	Catoptric lights with parabolic reflectors and argand burners	Light 1½ minute, dark ½ minute. Fog whistle on W. side, sounded in fogs or snow storms 10 sec. in every minute.
Octagonal, white.....	103	43	1868	do	Alternate red and white.
White, wood, pyramidal...	36	33	1870	do	
Octagon, white	92	55	1809	do	Variation in 1869, 17° 45′ W. A steam fog whistle has been placed on N.W. of Brier Island, south side of lighthouse. To be sounded during thick and foggy weather and snow storms, as follows: Blast of 4 seconds, Interval do, Blast do, Interval do, Blast do, Interval of 40 seconds } 60 seconds.
Square, white	40 each.	15	1850	Catoptric lights with parabolic reflectors and argand burners	Visible from the northward between the bearings of S. by W. and S.S.W., and from the southward between the bearing of N.E. by E., and N.N.W. ¼ W.
Square, white.....	.....	.....	1864	do	On the top of a dwelling house, which is white.
Square, vertical, red and white stripes.	76	22	1817	do	Variation in 1869, 18° 50′ W. Fog whistle on Prim Point; in snow storms and in thick or foggy weather, sounded 8 seconds in each minute, making an interval of 52 seconds between each blast.
Square white building, with tower.	207	35	1873	Catoptric.....	Visible between the bearings from E S.E. round by S. to W.N.W., Partridge Island Light bearing by compass N.W. by W. half W. northerly, distance being 6½ miles from light to light.
Square, white.....	60 / 57	22	1859	do	Lantern on top of dwelling; lower light in bow window, visible from W.S.W. round N. to E N.E.
Square, white and black, horizontal.	30 / 27	22	1859	do.	Red light, visible from W.S.W. round N. to E.N.E.
Square, white.....	45	35	1848	do	Light on top of dwelling, visible from all points of approach.
Square, white	92	20	1851	do	Variation in 1869, 20½° W. Light in window.
Square, white	75	35	1859	do	On keeper's dwelling; visible from all points of approach.

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LIST of Lights in the Dominion of Canada, under the charge

NOVA SCOTIA.

BAY OF FUNDY.

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Spencer's Point....	Spencer Point, north shore, Cobequid Bay.	45 23 30	63 37 0	One	F	.....	6
Partridge Island or Parrsboro'.	West side of river.....	45 23 0	64 19 0	One	F	.....	9
Apple River.....	Cape Capston or Hetty Point North entrance.	45 28 20	64 51 30	One	F	.....	12

NEW BRUNS

BAY OF FUNDY.

Grindstone	West part of island.....	45 43 13	64 37 25	One	F	.....	12
Enrage	Pitch of cape	45 35 34	64 46 55	One	F	.....	15
Quoco	Small rock off head.....	45 19 20	65 31 55	One	....	Every 20 seconds	15
St. John Harbor ..	Partridge Island	45 14 20	66 3 20	One	F	.....	20
	Beacon Tower	45 15 10	66 3 40	One	F	.....	10
Lepreau	On point	45 3 40	66 27 39	Two, vertical, 9 yards apart.	....	....	15
South-west Wolf Island.	On south-east point of the south-west island.	44 56 30	66 44 10	One	Rev	1½min. between each flash.	17 to 20
Whitehead Bliss Harbor.	West of Bliss Island....	45 1 15	66 51 0	One	F	.....	12
Campobello Island.	North point of Head Harbor.	44 57 40	66 54 10	One	F	.....	15
Port St. Andrew ..	North point of entrance..	45 4 10	67 2 50	One	F	.....	10
Grand Manan Island, north-east part.	Swallow Tail.....	44 45 52	66 44 0	One.....	F	.....	17

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of the Department of Marine and Fisheries.—*Continued.*

—*Continued.*

—*Continued.*

Colour or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Window in a building.....	35	20	1863	do	
Square, white	37	32	1852	do	Lantern on keeper's dwelling.
Oblong with tower, white .	64	45	1870	do	Rebuilt about 160 feet S.S.E. from old one.

WICK.

—*Continued.*

Wood, octagonal, white ...	60	.....	1854	Catoptric lights with parabolic reflectors and perforated sun burners.	Visible from N.E. by E. round by N. to E. by S., or 315°. Cape Enrage Lighthouse S.W. by W. ½ W. about ten miles. Variation in 1869, 20° 30' W.
White, square	120	23	1840	Dioptric, Fourth order.	Visible between the bearings of N.W. round by S. to N.E.
Octagon, horizontal bands, red and white.	58	46	1835	Catoptric.....	
Octagon, vertical stripes, red and white.	119	40	1791	do	In foggy weather a steam whistle is sounded every minute for ten seconds. A bell buoy is established near E. side of Partridge Island Reef.
do do	35	15	1828	Dioptric, Fourth order.	Variation in 1869, 19½° W.
Octagon, striped horizontally red and white.	81 / 53	31	1831	Catoptric lights with parabolic reflectors and perforated sun burners.	Visible between the bearings of W.N.W. and E. by N. from the S. Variation in 1869, 18° 50' W. Fog whistle during fog and snow storms.
Lantern surmounts keeper's dwelling, which is a square wooden structure, painted white.	111	35	1871	Catoptric.....	Visible from all points of approach.
Square, wood, white	45	30	1871	do	
Octagon, white, with red cross.	64	34	1829	do	Variation in 1869, 18½° W.
Octagon, white	42	22	1833	do	Visible between the bearings of N.W. by N. and S.E. by S. Variation in 1869, 16½° W.
Octagon, wood, white....	148	50	1860	do	Visible between the bearings of S.W. round S. to N. W. Variation in 1869 17¾° W.

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LIST of Lights in the Dominion of Canada, under the charge

NEW BRUNS

BAY OF FUNDY.—

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
		° ′ ″	° ′ ″				
Machias Island, two lights.	On the island.....	44 30 7	67 6 13	Two, W. by N. ½ N., and E. by S. ½ S., 56⅔ yards apart.	F	.....	15
Gannet Rock.....	On the rock.....	44 0 38	66 47 0	One	F & Fl	A flash for 4½ sec.	12

RIVER

Green Head.....	.....	45 18 0	66 7 20	One	F	....	10
Sand Point	....	45 22 0	66 11 0	One	F	.....	10
Oak Point.....	.....	45 32 0	66 6 0	One	F	... .	10
No Man's Friend..	....	45 47 0	66 7 30	One	F	.....	10
Oromocto Shoal....	....	45 53 0	66 27 0	One	F	..... .	10
Wilmot's Bluff	.....	45 56 0	66 30 0	One	F	.....	10
Cox's Point.....	Grand Lake	46 2 0	66 1 0	One	F	.....	10
Robertson's Point.	Grand Lake, Queen's Co.	45 53 0	60 13 0	One	F	.....	10
Fanjoy's Point	do do	45 55 10	60 4 0	One	F	....	10

PROVINCE OF

Race Rocks	On Race Rocks, in Straits of De Fuca.	48 17 45	123 32 0	One.....	Fl	Every 10 seconds	18
Fisgard	On a rock, at the entrance to Esquimalt Harbor.	48 26 0	123 27 15	One.....	F	... .	12
Fraser River Light Vessel.	On South Sand Head, at entrance to Fraser River	49 3 50	123 16 40	One.....	F	.....	9

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of the Department of Marine and Fisheries.—*Continued.*

WICK.—*Continued.*

Continued.

Colour or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
White.....	58 E., 54 W	36 each	1832	One light catoptric, the other dioptric of second order.	A fog whistle has been erected on the island, and will be sounded as follows each minute :— Two blasts of five seconds in each minute, with an interval of 25 seconds between each blast. 1st blast ..... 5 seconds Interval.... .....25 do 2nd blast ..... 5 do Interval.....25 do Making .....60 do First sounded, 30th November, 1873.
Octagon, striped vertically, black and white alternately.	66	41	1831	Dioptric, Fourth order.	A gun is fired to answer signals during a fog. Dangerous rocks extend 4 miles eastward of the lighthouse :— Fixed light..... 45 seconds. Eclipse..... 5½ do Flash ..... 4½ do Eclipse..... 5½ do 60 do
St. John.					
White.....	105	.....	1869	Catoptric.	
White.....	50	.....	1869	do	
White.....	50	.....	1869	do	
White.....	55	.....	1869	do	
White	54	.....	1869	do	
White.....	104	.....	1869	do	
White...	20	.....	1869	do	
Square, wood, white.....	16	16	1873	do	
Square, wood, white.....	16	16	1873	do	
BRITISH COLUMBIA.					
Circular stone tower, painted with alternate black and white horizontal bands.	118	105	1861	Dioptric, Second order.	Variation, 22° 5′ East. A fog bell s rung in thick or foggy weather.
Tower, white, built of brick, and a red brick dwelling-house.	.....	.....	1861	Dioptric, Fourth order.	Shows red in the harbor. Var. 22° 5′ E.
Red hull, with ball at the light mast head.	70	.....	1866	Catoptric.....	Variation, 22° 30′ East.

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APPENDIX

THE QUEBEC DECAYED PILOT FUND in Account current with

DR.

187.	*For the following Pensions and Relief paid during the Year 1873:—*	$ cts.	$ cts.
	To arrears of Pensions to 31st December, 1872	287 66	
	Amount of Pension List, for quarter ending 31st January, 1873	2,819 23	
	do do do 30th April, 1873	2,772 07	
	do do do 31st July, 1873	2,756 06	
	do do do 31st October	2,658 54	
			11,324 66
	Relief during the year 1873		511 70
	For the following sums paid and invested:—		
	To paid A. Coté & Co.'s account for printing blanks and publishing annual statement of the fund in "Journal de Quebec"	39 06	
	J. J. Foote's account for publishing annual statement of the fund in Quebec "Morning Chronicle"	21 48	
	Secretary-Treasurer's yearly allowance for a Clerk to assist in the collection and distribution of the Decayed Pilot Fund	440 00	
			500 54
	P. A. Shaw, for $1,000 Dominion Stock, 6% premium, interest accrued, brokerage and certificate	1,066 48	
	"La Banque National," special deposit	50 00	
			1,116 4
	Amount of temporary deposits in the Savings' Bank "La Caisse d'Economie, N.D."		9,300 00
	Balance		304 30
			23,057 89

Sworn to as being correct and true, this 27th January, 1874.

(Signed) J. W. DUNSCOMB, J.P., Dis. of Quebec.

Examined balance on hand, Three hundred and four dollars, and thirty-three cents.

(Signed,) VITAL TETU,
Master.

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No. 37.

A. Le Moine, Secretary-Treasurer of the Trinity House of Quebec.

CR.

		$ cts.	$ cts.
1873.	By balance in the hands of the Secretary-Treasurer on 31st December, 1872		3,498 31
	Capitals and Interest received from the following during the year 1873 :—		
	From Quebec Corporation, 1 year's interest on $9,000, to 1st July, 1873	630 00	
	,, Quebec Road Trustees, 1 year's interest on $22,800, to 1st July, 1873	1,368 00	
	,, Quebec Harbor Commissioners, amount of Debenture No. 190 $1,000		
	,, do do 21 months' interest to 1st October, 1873... 165	1,165 00	
	,, Estate P. Boisseau, 1 year's interest on $2,600, to 26th January, 1873	156 00	
	,, Trustees St. Andrew's Church, 1 year's interest on $2,000, to 17th November, 1872	120 00	
	,, Dominion of Canada, 1 year's interest on $16,400, 30th September, 1873	984 00	
	,, Jos. Pauliot, on account of his obligation $50 00 Interest 6 00	56 00	
	,, A. Marmen, 1 year's interest on $240, to 28th March, 1872	14 40	
	,, Ant. Lapointe, 1 year's interest on $100, to 20th November, 1873.	6 00	
	,, A. Fournier, 1 year's interest on $1,200, to 27th January, 1873	72 00	
	,, "La Banque Nationale," on special deposit	122 25	
	,, "La Caisse d'Economic, N.D.," on account temporary deposits	7,388 85	12,082 50
	Fines.		
	Amount received during the year 1873		15 00
	Poundage.		
	Amount collected during the year 1873		7,449 99
	Pensions.		
	Amount of pension overpaid Amb. Dumas		12 00
			23,057 80

(E. E.)

TRINITY HOUSE, QUEBEC,
31st December, 1873.

(Signed,) A. LEMOINE,
Secretary-Treasurer.

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STATEMENT of Monies received and paid by the Trinity House of Quebec, on account of the Quebec Decayed Pilot Fund, during the year 1873, viz:

RECEIPTS.	$ cts.	$ cts.
Per centage or contributions of Pilots		7,449 99
Capitals paid in and interest on loans received, &c		4,705 65
Temporary deposits in Savings Bank		7,388 85
Fines		15 00
		19,559 49
EXPENDITURE.		
Pensions		11,324 66
Relief		511 79
Investments		1,116 48
Temporary deposits in Savings Bank		9,300 00
Sundry payments		500 54
		22,753 47
PERSONS RELIEVED OUT OF THE FUND.		
Henri Gauthier, Pilot		96 00
N. Fortin, do		29 05
Isaie Maticotte, do		24 00
Henri Noel, do		28 00
Edouard Rousseau, do		48 00
Isaac Forbes, do		48 00
Ed. Demers, do		96 00
F. X. Lapointe, do		90 74
Wm. Russell, do		52 00
		511 79
PENSIONERS ON THE FUND.		
Infirm Pilots.		
D'Amour, J. S	120 00	
Lapointe, F. J	120 00	
Paradis, N	120 00	
Adam, J. E	96 00	
Benville, R	96 00	
Boucher, A	96 00	
Caron, J. B	96 00	
Chamberland, A	96 00	
Charest, P	96 00	
Charest, V	96 00	
Cinqmars, L	96 00	
Coté, F	96 00	
Curodeau, F	96 00	
Corriveau, F. X	96 00	
Dick, P	96 00	
Dion, C	96 00	
Fournier, G	96 00	
Fournier, M	96 00	
Gaulin, J. B	96 00	
Genest, A	96 00	
Genest, J	96 00	
Gourdeau, J	96 00	
Gourdeau, P	96 00	
Lapointe, J	96 00	
Lavoie, J	96 00	
Lemieux, J	96 00	
Menard, F. X	96 00	
Morin, M	96 00	
Nadeau, F	96 00	
Carried forward		

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STATEMENT of Monies received and paid by the Trinity House of Quebec, on account of the Quebec Decayed Pilot Fund, &c.—*Continued.*

	$ cts.	$ cts.
Brought forward		
Infirm Pilots.—Continued		
Paquet, P.	96 00	
Pelletier, F	96 00	
Pelletier, J	96 00	
Plante, G.	96 00	
Pouliot, P.	96 00	
Roussel, A.	96 00	
Roy, A	96 00	
Roy, J. L.	96 00	
Smith, M.	96 00	
St. Pierre, C.	96 00	
Vallancourt, E	96 00	
Vezina, C.	96 00	
Vezina, M.	96 00	
Vezina, O.	96 00	
Forbes, J.	80 00	
Coté, R	40 00	
Lapierre, Denis J.	40 00	
		4,300 00
Widows of Pilots.		
Widow Adam, C. J.	80 00	
do Asselin, J. B	80 00	
do Asselin, L.	80 00	
do Asselin, L. (M. L.)	80 00	
do Baquet, F.	80 00	
do Blanchette, L. D	80 00	
do Bernier, G	80 00	
do Bouchard, M	80 00	
do Caron, F.	80 00	
do Caron, G.	80 00	
do Chevalier, Ed.	80 00	
do Couillard, F.	80 00	
do Desrosiers, J.	80 00	
do Dick, J.	80 00	
do Dick, Ths	80 00	
do Dion, J	80 00	
do Doiron, A	80 00	
do Dumas, Christ.	80 00	
do Dumas, J.	80 00	
do Dunford, T.	80 00	
do Fournier, J.	80 00	
do Glynn, D	80 00	
do Gourdeau, P.	80 00	
do Irvine, W	80 00	
do Kœnig, C. F.	80 00	
do Lachance, O.	80 00	
do Langeller, F.	80 00	
do Langlois, J	80 00	
do Langlois, L.	80 00	
do Langlois, P.	80 00	
do Lapointe, A	80 00	
do Lapointe, F.	80 00	
do Laroche, J. B.	80 00	
do Lavoie, A. (L. M.)	80 00	
do Lavoie, A. (U. S.)	80 00	
do Lavoie H.	80 00	
do Lavesque, F.	80 00	
do Marcoux, J	80 00	
do Marticotte, H.	80 00	
do Mercier, J.	80 00	
do Michaud, A.	80 00	
Carried forward		

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STATEMENT of Monies received and paid by the Trinity House of Quebec, on account of the Quebec Decayed Pilot Fund, &c.—*Continued.*

	$ cts.	$ cts.
Brought forward		
Widows of Pilots.—Continued.		
Widow Normand, P.	80 00	
do Ouellet, A.	80 00	
do Ouellet, E.	80 00	
do Pettigrew, D.	80 00	
do Pineau, B.	80 00	
do Pouliot, Paul	80 00	
do Plante, J. M.	80 00	
do Rioux, F.	80 00	
do Ruelle, J	80 00	
do Simpson, F.	80 00	
do Simpson, John	80 00	
do Simpson, Jos.	80 00	
do St. Amand, G.	80 00	
do Simard, R. E.	80 00	
do Amiot, W.	64 00	
do Blouin, P.	64 00	
do Bossinot, F	64 00	
do Campbell, J.	64 00	
do Coté, C.	64 00	
do Desnoyers, F.	64 00	
do Desrosiers, P.	64 00	
do Lachance, F. X	64 00	
do Lachance, P. P.	64 00	
do Leclerc, F.	64 00	
do Pelletier, M.	64 00	
do Reilly, J.	64 00	
do Royer, A.	64 00	
do Ballantyne, P.	48 00	
do Chassez, Z	48 00	
do Chouinard, C. W.	48 00	
do Dandurand, J.	48 00	
do Fortin, J.	48 00	
do Keable, A.	48 00	
do Morency, G.	48 00	
do Rioux, M.	48 00	
do Rouleau, P.	48 00	
do Servant, J. B	48 00	
do Verrault, H	48 00	
do Blanchet, Z	40 00	
do Cavenagh, M.	40 00	
do Caron, F.	40 00	
do Coté, M	40 00	
do Fortier, A.	40 00	
do Langlois, L.	40 00	
do Lapierre, P.	40 00	
do Lapointe, P.	40 00	
do Michaud, P.	40 00	
do McNeil, T.	40 00	
do Plante, G	40 00	
do Raimond, A.	40 00	
do Thivierge, L.	40 00	
		6,280 00
Children of Pilots.		
Chasseur, Abraham (insane)	48 00	
Child of D. Charest, (David) infirm	48 00	
do H. Coulard, infirm.	48 00	
do L. N. Morency.	40 00	
do D. Charest, (Gervais) infirm	32 00	
do Gourdeau, J., infirm.	30 00	
do Pettigrew, W. (2)	50 00	
Carried forward		

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STATEMENT of Monies received and paid by the Trinity House of Quebec, on account of the Quebec Decayed Pilot Fund, &c.—*Concluded.*

	$ cts.	$ cts.
Brought forward		
Children of Pilots.—Continued.		
Child of Boutin, T., infirm	24 00	
do Toussaint, P. do	24 00	
do Baquet, P. do	20 00	
do Dupuis, F. do	20 00	
do Forbes, P. do	20 00	
do Fortin, N. do	20 00	
do Gauthier, H. do	20 00	
do Jahan, J. do	20 00	
do McNeil, N. do	20 00	
do Lavoie, E. & 3 infirm (4)	76 80	
do Pouljot, J. infirm	16 00	
do Turcotte, M. do	16 00	
do Turcotte, M. (mg)	16 00	
do Garneau, P. (3)	48 00	
do Garneau, P. (2)	32 00	
do Pineau, B.	12 00	
do Raymond, J. (2)	20 00	
		720 80
		11,360 00
STATE OF THE FUND.		
Money invested		56,475 79
Interest due by divers persons		201 61
Cash on hand, viz :—		
In Savings Bank	2,000 00	
In Secretary-Treasurer's hand	304 33	
		2,304 33
		58,981 73
Deduct arrears of pensions due this day		408 16
		58,573 57

(E. E.)

TRINITY HOUSE,
QUEBEC, 31st December, 1873.

A. LEMOINE,
Sec.-Treasurer.

Examined and approved, V. TETU,
Master.

January, 31, 1874.

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APPENDIX No. 38.

REPORT OF INVESTIGATION INTO THE CAUSE OF THE WRECK OF THE STEAMSHIP "ATLANTIC."

HALIFAX, N. S., April 18th, 1873.

The Court met at 3 p.m. according to notice of adjournment: present, the Commissioner, Captains Scott and McKenzie—when the Commissioner summed up the evidence and delivered the following judgment:—

The wreck of the steamship *Atlantic* and the loss of life unhappily attending it, into the causes of which this Court has been enquiring, has been one of the most frightful marine disasters of this century. A magnificent ship, one of the finest ever built, with nearly a thousand souls on board, and a valuable cargo, was run at full speed upon the rocks of our coast, and in a few minutes became a total wreck, and more than five hundred souls were hurried into eternity.

The object of this enquiry has been to ascertain, if possible, whether this disaster, so appalling in its consequences, was one of those mysterious dispensations of Providence, the result of causes beyond the power of human skill, prudence and foresight to have prevented; or whether it arose from the want of that skill, prudence and foresight on the part of those charged with the care and safe keeping of so much property and so many valuable lives. During the progress of the enquiry, in which I have been assisted by Captain P. A. Scott and Captain Geo. A. McKenzie, every effort has been made to obtain a full statement of the facts from such of the survivors as were in a position to know any of the causes of the disaster and the circumstances immediately attending it; but throughout the investigation the difficulty has been felt that in consequence of the total loss of all the ship's records, the witnesses have had to depend upon their memory only in stating circumstances and data upon which the judgment to be delivered in the case must legally depend. And it may be that under the excitement naturally arising from the circumstances of the case, the evidence given on some points may not have been so ample and accurate in matters of detail, as it might have been, had the memory been assisted by the log-book and other records of the ship.

From the evidence taken, it appears that the steamship *Atlantic*, of the White Star Line, of 2,376 tons register, sailed from Liverpool on the 20th day of March, and Queenstown on the 21st, for New York, commanded by Captain James A. Williams, who held a certificate as extra master, first officer James W. Firth, holding a certificate as master; second officer M. Metcalf, third officer C. L. Brady, holding a certificate as master, and fourth officer, John Brown, holding a certificate as master, with 811 passengers, including 35 saloon, and a crew of 141 men,—making a total on board of 957 persons, of whom I believe 535 are drowned. The ship seems to have had fair weather, and experienced no difficulty until about the 26th day of March, when she encountered a gale which continued for three days, during which she made comparatively slow progress, her speed being reported at from seven to eight knots per hour.

At noon, on Monday the 31st day of March, her position was found to be about 460 miles distant from Sandy Hook. The chief engineer reported only 127 tons of coals remaining in the bunkers, and the wind continuing ahead, and the glass giving indications of unfavorable weather, Captain Williams, after a consultation with his first officer and chief engineer, prudently decided not to attempt to reach New York with so short supply of coals, but to change his course, and bear up for Halifax.

During the three preceding days, the ship had been on a reduced consumption of coal; and from the fact that after this reduced consumption she was found, on the eleventh day of the passage, with less than 48 hours' supply remaining, the inference seems inevitable that she had not sufficient coals on board when sailing, for a ship of her class

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From the engineers we have the information, that when using Welsh coals, her consumption was from 55 to 60 tons per day. She had on board before leaving Liverpool a total of 967 tons, of which 80 tons were used before her voyage was commenced, leaving only fourteen days' supply had the coals been of the best quality. But the coals, instead of being the best quality, were a mixture of Welsh and English, of which she consumed 70 tons per day; and this gave her less than thirteen days' supply when leaving port.

Had the circumstances of the passage been favorable, and no difficulties from head winds or foul weather been experienced, this quantity of coal might undoubtedly have carried the ship and her passengers safely to their port of destination. But the passage across the Atlantic in the winter season, without more or less of unfavorable weather, is the exception and not the rule. Favorable weather during the whole western passage in the month of March could not reasonably be expected, and the contingency of the low rate of speed resulting from head winds and foul weather, ought to have been provided for.

Under the circumstances, Captain Williams seems to have been justified in changing his course, and bearing up for Halifax. During the hour from the time the ship's position by observation was obtained on the thirty-first, until 1 p.m., a distance of about seven miles westerly was run, which made her position, by Captain William's statement, to be, at the time her course was changed, Lat: 41′ 39″ N., Lon: 63′ 54″ W., and distant about 170 miles from Sambro Light. Assuming this position to be correct, the course steered N. 24′ E. or N. 33′ E., magnetic, should have carried her well to the eastward of Sambro, had there been no current. It appears in the evidence that azimuths were obtained during the afternoon, and the bearing of the pole star taken during the night to correct the error of the compass. If the evidence on these points is correct (and it must be remembered that these facts are given from memory only), then it is very apparent that the ship must have been set to the westward by a current something over one knot per hour. At midnight she was estimated by the common log hove at intervals of two hours, to have run 122 miles or an average of 11 miles per hour from the time her course was changed, which would place her within about 48 miles of Sambro. At that hour the watch was changed, the first and third officers going below, the ship being left in charge of the second and fourth officers. Soon after midnight, the Captain left the deck and retired to his chart room, giving orders to his servant to call him at 2.40; and to the officer of the watch to call him at 3 o'clock or sooner, if they made the light, or if there was any change in the weather.

During the three hours no light was seen; the Captain's servant came to call him at 2.40 as ordered, but was prevented from so doing by the first officer. It also appears that the officers left in charge did not obey the command given by Captain Williams, to awake him at 3 o'clock, for I find that he slept until awakened by the shock of the ship striking the shore, at from twelve to fifteen minutes after three.

The ship struck upon a rock, which, upon a visit to the locality, I find to be about 70 or 80 feet in width, and distant about 50 yards from Meaghers Island. She seems to have struck nearly square on, with her head to the northward, her bow remaining fast, but her stern immediately swinging around to the eastward. In a few minutes after striking, several hundred of the passengers and crew rushed upon deck; but at the end of that time she listed to seaward, her deck becoming nearly perpendicular, when all access to the stairways leading from the saloon and steerages was cut off, and those remaining between decks were drowned by the ship filling with water. The conduct of Captain Williams and his officers during the time of trial after the ship struck, seems to have been all that could be demanded of men in their situation. Their efforts to save life appear to have been characterised by judgment, coolness, and bravery; but unfortunately all human efforts at such a time were of comparatively little avail. The sea washing over the ship, swept away by scores the timid and the weak, and only men of strong nerve were able to save themselves by the rope communicating from the wreck to the rock, and from the rock to the shore, that had been established by some of the petty officers. The ship falling over so quickly after striking, made it impossible to successfully lower any of her boats, and before assistance could reach them by boats from the fishe-

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men residing in the locality, many of those who had succeeded in reaching the deck before the ship fell over were swept into the sea, and were drowned.

I have already said, that I believe the action of Captain Williams in bearing up for Halifax at 1 p.m. on the 31st March, was prudent and justifiable, and also that his conduct, as well as that of his officers, from the time that the ship struck, was marked by intrepidity and coolness, and a desire to do everything in their power to save the lives of those who had been entrusted to their care. But I regret that I find it impossible to speak with approval of the management of the ship from the time her course was changed at 1 p.m. on Monday, until the time she became a wreck on the morning of Tuesday. The fact of the ship striking the land at a point some 12 or 13 miles westward of that which Captain Williams believed the course he was steering ought to have made, is accounted for by the westerly current, which usually prevails to a greater or lesser extent on the coast of Nova Scotia, and which is said to run with greater force during the months of March, April and May, than during any other season of the year.

Whether or not sufficient allowance was made by Captain Williams for this current in the course that he steered, does not seem to be a question of vital importance; for it is very probable that the same error as to the speed of the ship, and the want of vigilance on the part of the officers who were on duty, which is too apparent, and the total neglect to obtain soundings or use the most ordinary precautions that ought to be used in approaching the coast, would have run the ship ashore had she been on the course that Captain Williams supposed her to be. The distance from her point of departure at 1 p.m. on Monday, to the land, had her course been directly held, being about the same as the distance from that point of departure to the spot where she was wrecked. It seems to be impossible to account in any other way than by want of vigilance for the fact of no lights being seen. It has been proved that Sambro Island, Chebucto Head, and Devil's Island lights were all in good order on that night; Sambro Light was distinctly visible from the Devil's Island Lighthouse, a distance of about nine and a half miles, at a little before the time the ship struck, and when she should not have been more than seven or eight miles distant from Sambro Island light. The night seems to have been fine; Captain Williams states that at midnight when he left the deck, and again when he came on deck after the ship struck, the night was fine, stars being visible, and that the light ought to have been seen, and that even the land ought to have been seen at two or three miles distance. Some of the men on duty have sworn that at one time, during that interval between twelve and three, it was very black and some fine sleet falling; but the whole weight of the testimony goes to show that the night was one in which the light ought to have been seen some time before the disaster, if a proper vigilant look-out had been kept. A grave error must have been made in estimating the speed of the ship: from a reduced consumption of coal and a speed of seven knots previous to her course being changed on Monday, the consumption of coal was increased after she bore up for Sambro, to her full allowance and for her highest rate of speed. It is in evidence that, under favorable circumstances with steam alone, the *Atlantic* would make twelve or thirteen knots per hour. After bearing up at 1 p.m. on Monday the circumstances were most favorable for attaining her best rate of speed, the wind being free and the water smooth; yet I find that at midnight Captain Williams estimated that she had made an average of only eleven knots, an estimate which the event shows must have been inaccurate. The common log was used, and that only at intervals of two hours, and the officers seem to have left the duties of heaving the log and noting the rate of speed on the log slate, to the quartermasters.

From the time when the ship bore up for Halifax until she struck, she made an average of 12 knots per hour. Assuming her point of departure at 1 p.m. on Monday to have been correctly ascertained, there is no evidence of any northern set of current to account between the distance which the ship actually ran up to midnight, and that which, estimating by the log, the captain supposed her to have run. It is stated that sometimes a change of wind will produce a change of current for a few hours on the Lahave and Sable Island Banks at a distance off shore of 50 to 70 miles, but it is a well authenticated fact that, during the spring months, there is no continuous northerly set of current on this coast.

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The fact that the body of one of the passengers from the *Atlantic* was picked up a few days after the wreck, at a distance of 25 miles to the west and south, and that two trunks from the wreck were picked up at a distance of 18 miles in the same direction, show the current sets off shore. Bales of merchandize drifting seaward from the steamship *Dacian*, wrecked at Clam Harbour on 3rd April, last year, proved the existence of an off-shore current at that time, and we have an annual confirmation of the fact of an off shore current, in the circumstance that the ice drifting from the northward around Cape Breton, instead of lining our coast closely, (as would be the case if a northerly current prevailed) is very rarely seen in sight of our shores to the westward of Canso. It seems, therefore, impossible to account for the error in estimating the ship's speed, except on the ground of incompetency or carelessness in calculating on the part of those attending to the log. I have also to observe that the conduct of the captain leaving the deck after midnight seems to me to have been at least imprudent, and calculated to create an impression on the minds of the officers on duty that they were not so near land as to make extra vigilance imperative. Captain Williams states that, at that time, he believed himself to be about 48 miles from land. In this belief it is now known that he must have been mistaken, and it seems to have been culpable rashness for him, under the circumstances, to order the ship to be run towards land for three hours at her, then, full speed, without taking precautions to guard against any possible error in his estimate of her position; or the event of the light, which ought to have been seen at 18 or 20 miles distance, not becoming visible in that time. Had the very ordinary precaution been taken of sending a look-out at intervals to the masthead, the disaster would, in all human probabilily, have been prevented. But the greatest, and I may say the fatal, error is found in the fact that the lead was never used, although the ship was within soundings for eight hours before she struck. This is a neglect of duty for which there can be positively no excuse. So accurate are the soundings laid down upon the chart, that, had the lead been used at proper intervals, the ship's safety would have been guaranteed, even had the night been one on which the lights could not possibly have been seen. It is true that the frequent use of the lead might have delayed her for a few hours in reaching port, but there was nothing to be gained in point of time by making the port before daylight; and even if there had been, those few hours of detention ought not to have been allowed to weigh against the safety of nearly 1,000 lives that were imperilled, and more than half of whom have been lost by the neglect of this plainly manifest duty.

From a careful review of all the facts of the case, I feel compelled to state my belief that the conduct of Captain Williams in the management of his ship during the 12 or 14 hours preceding the disaster, was so gravely at variance with what ought to have been the conduct of a man placed in his responsible position, as to call for severe censure, and to justify me in saying that his certificate as Extra Master and Master might be cancelled; but in consideration of the praiseworthy and energetic efforts made by him to save life after the ship struck, the mitigated penalty of suspension of certificate for two years shall be imposed.

I also feel it my duty to state that the conduct of Mr. Brown, the fourth officer, in preventing the servant calling Captain Williams at 20 minutes to three was, under the circumstances, an improper violation of the captain's orders; and further, in the fact that he was one of the officers of the watch after 12 o'clock, ought to have seen the light and did not see it, and ought to have seen the land and did not see it. There is an implied culpable neglect and want of vigilance, which consideration for the public safety, demands should be marked by censure and moderate punishment.

I therefore adjudge that the certificate of Fourth Officer, John Brown, as Master, should be suspended for three months.

Dated at Halifax this 18th day of April, 1873.

(Signed) E. M. MACDONALD.

We concur in the above.

(Signed) P. A SCOTT.

GEO. A. MACKENZIE.

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APPENDIX No. 39.

REPORT OF INVESTIGATION INTO THE CAUSE OF THE WRECK OF THE STEAMER "L. RENAUD."

DOMINION OF CANADA, PROVINCE OF QUEBEC.

The undersigned, Louis Marchand, Master, the Hon. Jean Louis Beaudry, Victor Hudon, Pierre Edouard Cotté, and Benjamin Lyman, Esquires, Warden of "The Trinity House of Montreal," being a court or tribunal nominated and appointed by the Governor in Council, on the 24th day of May last, for the purpose of investigating into the wreck of the steamer *L. Renaud*, and the conduct of the captain and crew subsequent to the accident taking place, and reporting thereon under the provisions of the statute 32 and 33 Vic. Cap. 38, having each, before entering on their duties as members of such Court, taken and subscribed the oath prescribed by the 8th Sec. of said statute, do hereby report upon the case investigated, as follows :—

The accident occurred on the Lachine Rapids above Isle au Heron, about six o'clock in the evening, on the 12th day of May last.

At the time of the accident the vessel was commanded by John —. Rankin, the captain or master thereof, and was steered by Louis Hains, a pilot, whose experience of the Rapids extended only over one year, assisted by three men; and there were on board about 150 passengers, many of whom were ladies and some were children—and a full cargo of freight. The officers and crew numbered about twenty-seven.

The vessel struck three times, and on the third occasion she remained fast on the rocks, and the steam pipe burst, and several of the passengers were in consequence severely scalded.

When the vessel struck she was considerably out of the proper channel; and although the water of the river was unusually high, it does not appear that that fact presented any special difficulty in the navigation of the vessel, although the circumstance doubtless called for extra precaution on the part of those who steered the vessel.

The captain took no measures whatever to allay the excitement and fears of the passengers, or to preserve order on board the vessel; but immediately left the vessel, accompanied by three of the passengers in the life-boat, which was capable of holding according to his account 18 or 20 persons, and without placing any of his officers or any one else in charge of the vessel.

No serious effort, moreover, was made by the captain to fill the life-boat to her full complement, and Mr. Hedge (one of the scalded passengers) was really refused admission into that boat. Mr. Hedge swears it was the captain who so refused him admittance, but the facts sworn to by others establish that he must have been mistaken in the identity of the captain.

The reason assigned by the captain for leaving the vessel as he did was, that he wished to prove to the passengers that the boats could safely pass down the river to the Island, and seek assistance from the island and the main shore.

The remainder of the passengers were rescued throughout the night and on the following morning, by means of the two remaining boats of the vessel and by canoes, which had been hired by the captain after his arrival at the island.

The first of these two boats was under the charge of one of the passengers, Mr. Peter McMartin, of Beauharnois, and the second under the charge of the pilot; and in this boat the mate and purser also left, leaving the chief engineer, James Quig, and his assistant nd the steward of the vessel still on board, besides some of the crew and the great mass f the passengers.

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Mr. Quig paid every atention to the passengers, and did all he could to calm their fears, and was the last to leave the boat; but the command on board the vessel was in reality assumed by such of the passengers as possessed the nerve and energy necessary for the task—prominent among whom were Messrs. Lebœuf, McDonald, Esplin, Johnson, Bryson and Brossois.

The captain appears to have made sundry efforts to get back to the vessel, but did not succeed in doing so. He must have known it was impossible for him to return to the steamer in the boat which took him off, as was proved by the testimony of several witnesses.

As to the freight on the vessel, only a partial effort seems to have been made by the officers or agents of the vessel to remove it from the steamer, and in some instances they positively refused to assist in or attend to its removal, in consequence whereof a considerable portion of the freight, which included cattle, has been entirely lost.

On the whole case, as thus investigated, the court or tribunal, after hearing Captain Rankin by his counsel, and after due deliberation, do hereby pronounce the following judgment or opinion thereon.

1. That the accident was caused by the want of sufficient knowledge or experience on the part of the pilot, and the want of proper attention to the steering of the vessel.

2. That the conduct of the captain, in leaving the vessel as he did, and in doing so without placing any one in command of the vessel, was in the highest degree reprehensible.

3. That the conduct of the other officers and crew of the vessel (with the exception of the chief engineer, whose conduct was beyond all praise) was also reprehensible—their own personal comfort and safety having been looked to in preference to that of the passengers.

4. That the officers and crew of the vessel, as well as the agent and owners thereof, were not as regardful as they ought to have been of the forwarding of the passengers to their ultimate destination after the accident; and were grossly negligent with regard to the saving of the freight on board the said vessel at the time of the wreck.

In addition to pronouncing the foregoing judgment or opinion, the court or tribunal desire to record their high appreciation of the noble conduct of the chief engineer and of those passengers whose names are mentioned in the Report, to whose firmness and intrepidity the saving of many lives may fairly be attributed.

And finally, the court or tribunal have to express their regret that it is out of their power to award any punishment to those whose conduct has been condemned in the foregoing judgment or opinion, and to suggest to the Honorable the Minister of Marine and Fisheries the propriety of preventing captains or masters, or other persons in charge of vessels navigating the inland waters of the Dominion, from acting as such without an official certificate of their fitness and competency so to act.

Given under the hands of the said several members of the court or tribunal, at the City of Montreal, this fifth day of June, one thousand eight hundred and seventy-three.

(Signed) L. Marchand,
J. L. Beaudry,
V. Hudon,
P. E. Cotté,
B. Lyman,
E. D. David

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APPENDIX No. 40.

REPORT OF INVESTIGATION INTO CAUSE OF WRECK OF THE STEAMSHIP "NORTHERN."

To the Honorable P. MITCHELL,
Minister of Marine and Fisheries.

The undersigned having been appointed on your recommendation by an Order of His Excellency the Governor General in Council, dated 17th June, 1873, (a copy of which is herewith appended) a Court or Tribunal for the purpose of holding a formal investigation under the authority of the 5th section of the Act 32 and 33 Vict., cap. 38, as to the cause of the wreck of the steamship *Northern*, which was recently wrecked on a reef of rocks near the Island of Orleans, in the River St. Lawrence, have the honor to report that immediately after being notified of their appointment they proceeded to examine the steamer alluded to as she then lay on the rocks below the lighthouse at Point St. Laurent; and on Wednesday, the 18th June, 1873, they opened the Court at the Trinity House, Quebec, after taking and subscribing the oath required by the 8th section of the Act alluded to, before W. D. Campbell, Esquire, one of Her Majesty's Justices of the Peace for the District of Quebec.

The steamer *Northern* appears by the British Registry of Shipping to have been built of steel, at Liverpool, in the year 1865; is propelled by paddle wheels; is 274 feet long, $33\frac{1}{10}$ feet in breadth, and $23\frac{8}{10}$ feet in depth. Her gross tonnage is 1,622 tons; register tonnage 905 tons; and has engines of 300 horse power. Her owner or managing owner is stated to be William Henry Ross, of Liverpool. John Cassels, the engineer of the steamer, stated in his evidence that she has a pair of double oscillating diagonal engines, and that both paddle wheels could be worked by either of her engines; that her boilers are nearly new, and that she could run from 12 to 18 knots an hour, according to the quantity of steam used and the weather; and that he considered her a first-class boat in every respect. Captain Fullarton, who was master of her at the time the accident occurred, stated in his evidence, that when she left Montreal she was drawing $11\frac{1}{2}$ feet forward and $12\frac{1}{2}$ feet aft; that he discharged some cargo at Quebec, which made her a little lighter forward, but her draft of water aft remained about the same. She has two stern posts, and her rudder is placed between them—the top of it being about 5 feet below the load line.

She has a rudder at her bow, but it is not now in use, having been plated over. She is very fine at both ends. It appears by the evidence that she came out to Quebec from England in May, 1872, and lay there till November, 1872, when she went to Sydney to assist the *Southern*, a steamer which is described as the counterpart of the *Northern*, and which had been sunk there. After lying at Sydney for some time she proceeded to New York, where she remained till May, 1873, when she came round to Quebec again under charge of Captain Fullarton, who appears to be a very intelligent person. On the 8th of June she proceeded to Montreal, where she lay till the 11th of June, when she started between 4 and 5 a.m. on a voyage to Quebec and the lower ports in the Gulf of St. Lawrence. She took 13 hours to go down to Quebec, including an hour of stoppage, so that she reached Quebec about six o'clock in the evening. According to the engineer's evidence she left Quebec a few minutes before twelve o'clock on Wednesday evening, the 11th instant, by the engine room clock, which was set by Montreal time. As soon as she got clear of the shipping in the neighbourhood of the wharf where she was lying she was put at full speed ahead by directions of pilot, till 15 minutes to one o'clock on Thursday morning by the engine room clock, when she struck on the rocks where she now lies, having only left her moorings at Quebec a little over 45 minutes before. Between the

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time she left Quebec and the time she went on the rocks, she was making from 16 to 17 revolutions a minute, which would make her go 10½ knots an hour in slack water; but as it was about low water at the time, the engineer thinks she was probably going about 11½ or 12 knots an hour during that time. The distance from Quebec to the lighthouse at Point Saint Laurent is about 9½ miles. The night was fine and clear, with bright moonlight, the moon being nearly full. From the time she left Quebec till she struck she was under the charge of Mr. Louis Honorius Lachance, a branch pilot for and below the harbor of Quebec, who has also a master's certificate of competency from the Government of Canada. Mr. Lachance, although a young man and only a branch pilot since 1869, has crossed the Atlantic 28 times in sailing ships and steamers during six consecutive winters, and has frequently acted as steersman of the Allan steamers, and has also acted as third mate on board one of these steamers. He acted during the season of 1869 as a branch pilot for and below Quebec, and in 1870 he was appointed to the command of the Government Schooner *Stella Maris* in which position he continued for three seasons, and in 1873 he again commenced piloting. Before he was selected to pilot Mr. Ross's steamer he had brought up two sailing vessels in that year, and he had piloted 11 sailing vessels in 1869; making 13 vessels in all which he had piloted in the St. Lawrence.

This appears to be all the vessels he has ever piloted in the St. Lawrence, and he never piloted any steamer up or down the St. Lawrence as a pilot until he piloted the *Northern*. He is a very respectable and intelligent person, and sustains an excellent reputation as a sober and attentive pilot. He stated in his evidence that although he had had no experience in piloting steamers as a pilot in the St. Lawrence River, he felt quite capable of piloting the *Northern* up or down the river, and he thought it required no different experience to pilot a steamer than a sailing vessel. Mr. Numas Lachance, who is a branch pilot for the river below Quebec, and has had much experience in piloting steamers, stated in his evidence that his brother Honorius had served his time with him, and that he always found him very attentive to his duty, and that he felt confident that he was quite capable of taking charge of any steamer. Captain Fullarton stated in his evidence that the pilot was perfectly sober, and that he had nothing whatever to accuse him of either from negligence or inattention to duty. He also testified that the man at the wheel at the time of the accident was perfectly sober, and that he had never seen him the worse for drink. It is clear, therefore, from the evidence that the accident was not caused by any persons connected with the management or steering of the vessel being under the influence of intoxicating liquor, or being inattentive or neglectful of their duties in any way. All those connected with the working of the vessel appear to have been at their posts attending to their respective duties, and there was no unusual difficulty of any kind, as the night was clear, and the light at Point St. Laurent was in full view of the pilot. The circumstances connected with the starting of the vessel appear to have been favorable, although it was nearly low water, and the tide was running down probably about two or three knots an hour.

Captain Fullarton, in his evidence, states that he brought the *Northern* round from New York, calling at Cow Bay for coals, and that he found no difficulty in steering her, and got her always to do whatever was required of her; but being a long ship, fine at both ends and flat bottomed, she required more than usual care in steering. He took her into the wharf at Cow Bay without any difficulty. He found her answer her helm very quickly, and the pilot, he states, who brought her up to Quebec, made no objections to her steering. It is evident, however, the captain found some peculiarities about her steering, for he states in his evidence that he told the Montreal pilot about them, as well as the pilot that took charge of her at Bic, and also Mr. Lachance. He also states that, if he had been steering her, he would have taken her further out into mid-channel. He thinks she was affected by local influences, as there appeared to be a current deflected from a small bay above the lighthouse, which threw her stern out and the bow in towards the shore.

Edward Naud, a branch pilot for and above Quebec, states in his evidence, that when

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he told Captain Fullarton that she steered badly, he (the captain) told him that it was owing to her being long and having no keel.

Captain Hatfield, master of the *Southern* states in his evidence, that he accompanied the *Northern* about 9 miles down the channel when she was leaving New York, and that he saw no difficulty about steering or handling her; and when he brought the *Southern* out of New York alongside of ships and vessels passing in all directions he had no difficulty in keeping clear of them; and there is no difference that he is aware of, between the two vessels, either in steering or any thing else. When the pilot was leaving Quebec on her last trip, Captain Hatfield did not think that he handled her in a proper manner, and when he heard of the accident, he thought she must have been too close to the shore, but he was not on board the vessel when the accident occurred. He thinks that if she had been stopped and backed, she would not have gone on shore.

Mr. Guanard, a branch pilot for and below Quebec, deposed, that if he had been taking down the *Northern* he would have kept her as near as possible in mid-channel, and if he had found she did not answer her helm, he would have ordered her to have been stopped immediately.

William Henry Ross, who appears by the Register to be the sole or managing owner of the *Northern*, stated in his evidence, that the *Southern* is a duplicate ship in every respect, has just steamed through the Gut of Canso, and was brought through by a captain who had never passed through before, and he found no difficulty whatever. He also solemnly declared, that he never heard one word about her having struck any portion of the channel, at Charlottetown, nor did he ever hear that there was any difficulty about steering her.

Eleazer Bernier, who was first mate of the *Northern* when the accident occurred, states in his evidence, that he joined her at New York, in May last, and as she was a long vessel, she had to be closely watched, but he had no difficulty in getting her where he wanted to get her. She would always answer her helm when it was amidships before, but when it was in port, and the order was given for starboard, it took time before she answered it. He believes this is generally the case with long ships, and that their steering depends a good deal on the pilots, and how they give their orders. His opinion of the cause of the accident—and he was on the watch at the time, and was standing on the top of the wheel-house with the pilot a little before it took place—was, that the vessel being close to the shore, the main current being stronger than the inside current, caused by a point that makes out a little above the Point St. Lawrence, made the vessel shear in against her helm, and before she had time to recover herself, she went ashore. He thinks that if the pilot had kept the vessel in mid-channel, where she would have had room to shear, the accident would not have occurred.

David Macdonald, who was a quarter-master on board of the *Northern*, and who has been a steersman for ten years, during which period he has had much experience in steering vessels and large steamships, states in his evidence, that he was at the helm from the time she left Quebec to the time she went on the rocks. He says he found her steer pretty well if the order to steer port and starboard was given in time, and that he found no difficulty in steering her while at sea on the voyage round until she came into the River St. Lawrence. If properly watched, she does not require much room, and steers with little helm if taken in time; but in a narrow channel she wants a good deal of watching, and if given much helm, she steers wild. When she would be steered by a person not acquainted with her steering qualities, she would sheer about a good deal if given much helm. He informed the pilot of this, and that it would be best to give her small helm. He states that when she left Quebec she steered wildly, as the pilot gave her too much helm, and in his opinion she seemed rather close to the shore on the North side of the channel. When the pilot gave the order port twice just before the accident, she did not seem to answer her helm, but kept pretty much in a straight line. He then gave the order hard-aport, and when he turned the wheel, he (Macdonald) noticed her head inclining to starboard, and it was evident that she was beginning to answer her helm, and immediately after she struck on the rocks. He thinks the accident might have been avoided if she had been a vessel that answered her helm quickly, which she did not do on this occasion

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as quickly as usual. He does not think she answers her helm as well as any steamer he has been in.

Having alluded to that portion of the evidence which tends to prove that there was nothing defective about the *Northern* or her steering, and that it must have been mismanagement on the part of those in charge of her at the time the accident occurred which allowed her to run on the rocks, the undersigned will now submit some portions of the evidence on the other side, which tend to prove that the accident was owing to the difficulty of steering the vessel, and that she did not answer her helm sufficiently to prevent her from sheering about and keep her from running into difficulties. Mr. Edouard Naud, branch pilot, who took her from Quebec to Montreal, states in his evidence, that he found her steer very badly, and he had a good deal of trouble in taking her up. She takes a long time in answering her helm, particularly when she takes a sheer. In the Richelieu Rapids he was compelled to go at half-speed, as she frequently took a sheer, and he was afraid she would get ashore; and in passing narrow places he requested the mate to assist the man at the wheel as she steered badly. He never took a paddle steamer up or down the river before. Mr. Paul Baquet, a branch pilot for and below Quebec, states in his evidence that he piloted the *Northern* last summer from St. Patrick's Hole up to Quebec, and that he found when she took a sheer one way she was a long time before she answered her helm, and that it would require a man who had been on board of her before and who knew her, to steer her properly. He was warned by Mr. Tremblay, another branch pilot, who had her in charge at the time, that she was difficult to steer, and sheered about from side to side of the river, and he was consequently careful in steering her, and brought her up safely to Quebec. Wm. Cooper, a quater-master on board the *Northern*, states in his evidence, that he has been steering steamers for three or four years—some of the steamers as long as the *Northern*. The mate cautioned him when he joined her at Montreal that she steered badly, and in going down from Montreal to Quebec he took notice that she required a great deal of the helm, and found her about the most difficult to steer of any steamer he was in. He thinks she is a bad steering vessel. He was for five months wheelsman in the paddle-wheel steamer *Connecticut* which was about as long as the *Northern*, and found her steer with two or three spokes of the wheel either to starboard or port, but the *Northern* required one or two turns of the wheel to make her answer her helm. About a mile and a half before they came to the light at Point St. Lawrence, he thought she was keeping too close in shore, and spoke of it to Macdonald, the other steersman. When he ported the helm she did not answer it, then the pilot gave the order hard-a-port; and after the wheel was put hard-a-port, she had just cleared the lighthouse and went aground. After the wheel was put port and hard-a-port, he says she did not answer her helm in the same way that he had seen any other vessels answer it. If she had been similar to any other vessel he had steered before she would have answered her helm, and gone clear of the rocks.

Immediately before the accident, she did not answer her helm quick enough. He thinks she was not over a quarter of a mile from the shore when the pilot gave the order, "port." Immediately before she grounded, she was as near the shore as when he remarked to Macdonald, that he thought her too near for safety, and, according to his experience, he thought her too close to the shore all the way down. Before the wheel could be got hard-a-port she was taking the ground. After the order "hard-a-port" was given, there was no time for her to get off to starboard before she struck, and she had not time to answer her helm. Even if she had steered like any ordinary vessel, there was not time for her to clear the rocks after the order "hard-a-port" was given, for she was too near the shore.

William McLaughlin, steersman, deponed that he was quarter-master of the *Southern* when she sunk alongside the wharf at Sydney, Cape Breton, and joined the *Northern* there, as an able-bodied seaman, and went to New York in her. He steered the *Southern* singly, but he could not steer the *Northern* singly. He thinks she is not ruddered right, and that the barrel of the wheel is too small. He would not undertake to steer her long at sea, as he has seen two men knocked away from her

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wheel. He says he defies any man to steer her steady. When going into New York, the pilot threatened to beat the man at the wheel, as she was not answering her helm, and thought it was the fault of the steersman. He had sailed in steamers as long as her, but never was in a steamer that steered like her, and he thinks there is no possibility of a person coming to understand her steering; and he thinks that the reason is, that she was raised and made larger after she was originally built, while the rudder was allowed to remain as it was originally. He thinks the rudder should be outside the stern post, instead of between two stern posts. When he heard that the steamers *Northern* and *Southern* were coming round to the St. Lawrence, he made the remark, that they would not do for these rivers, for they would either run ships down, or run ashore. If he passed another vessel while in the *Northern* he would like to give her half a mile of sea room, in case she would give a sheer, on account of her bad steering. She sailed well, however, in a heavy sea. His opinion is, that she will never steer right until the rudder is put outside the stern post.

N. Curadeau, a branch pilot of the River St. Lawrence, deponed that he went from Quebec to New York, last November, as pilot and first officer of the *Northern*, and that they had pretty hard work to get along with her, because she would not steer. In going down past the Island of Orleans, he kept the north side of the channel, and from St. Patrick's Hole to Point St. Lawrence, he went about a quarter of a mile from the shore, and about a quarter of a mile from the lighthouse. He kept this distance away from the lighthouse for fear of going on the rock. He nearly got her ashore last fall at the South Traverse, because she would not steer. Below Brandy Pots, where the channel is four miles wide, he nearly got her ashore again. She took a sheer right across from one side of the channel to the other, at White Island. He had to keep her helm hard-a-port or hard-a-starboard, mostly all the time, to make her mind it. After she got into the Gulf she steered wild, and they had to keep shifting mostly all the time. He states on oath, that he has been in the habit of piloting long and large steamers, for three years, and that she is the most difficult steamer to steer that he has ever steered in his life. He thinks the rudder is too far in. He thinks the only way she will steer is when she is going at full speed. In going from Sydney to New York, they went the most of the way with one wheel, and she worked just about as well with one wheel as with two, sometimes steady, and sometimes sheering about. In going into New York, the pilot cursed the man at the wheel for bad steering. She is a good sea boat, however, and rides easily.

Isaac Saunders, deponed that he was second mate of the *Northern* on her voyage from Quebec to Sydney and New York, in November last. When they first left the wharf at Quebec, she took a sheer right across the river, and they had to stop her for a long time, and back her, before they could get her into the south channel. Mostly all the time going down the Gulf, she sheered about and could not be kept steady, and is the worst vessel to steer he was ever on board of, as he was not sure of her a minute after he got her steady. He thinks the rudder is too small—it is not seen at her ordinary load line. The rudder has no effect on her when she is going at half, or quarter-speed. He was afraid, when on board of her, of some accident happening on account of her bad steering. When steaming with her head to the sea, she would sometimes drop right off, with her broadside to it.

James Foley deponed that he was an able-bodied seaman on board the *Northern* from New York to Quebec, in May last, and when it came to his turn, he acted as steersman, and found her to steer very badly. He never found, in his experience, any steamer steer so badly as she did. With considerable difficulty, they got her up to Quebec safely, but it is difficult to bring her up a narrow channel.

E. Toupin, deponed that he is a branch pilot for and above the harbor of Quebec, and that he piloted the *Northern* from Montreal to Quebec, on the 11th June last. He found her steer very badly. He got down all safe without getting her ashore.

He had piloted many steamers as long as her, but he never found any so difficult to pilot as she is. She is the worst he ever piloted. The Captain told him to be very

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cautious about steering, and not give her too much helm, as she would sheer too much. He would not again pilot her unless he had an agreement, in writing, with owner, that he should not be held responsible for any accident happening to her by collision with other vessels, but he would rather not pilot her at all.

Robert Shortas deponed that he was an able-bodied seaman on board the *Northern* from Quebec to New York, and found her very difficult to steer,—more difficult to steer than any steamer he ever was in. He thinks the rudder is too small, and that it should not be inside of her after stern post. During the voyage she kept sheering about pretty much all the time, ranging from three to five points. The New York pilot complained to him of his steering, and threatened to beat him out the wheel-house. He thinks it was of no use giving her small helm as she could not be managed in that way.

Charles Hoffmann deponed that he joined the *Northern* at Quebec, to go as second mate, and went to Montreal and back to Quebec in her, and was on board of her when she went on the rocks. She steered very badly; when the first order hard-a-port was given, he thinks she was too close to the shore, and she did not obey her helm at all. When the second order to port was given, she began to go off a little to the north instead of answering her helm and going off to the south; he thinks the second order should have been hard-a-port, and that if she had not been so much to the north she would not have gone ashore. If she had not answered her helm very quickly she would have struck the wharf, and might have knocked down the lighthouse. If the engines had been reversed, the vessel was too heavy, and they were too close to the wharf for it to have produced the effect of preventing her taking the ground; but if they had been reversed when the first order was given to port they would have had a good chance of getting off clear. He thinks it would be hard to decide whether the accident was caused by the vessel being too close to the shore, or on account of her steering badly, but for a vessel steering so bad as she did, he thought she was too close.

Joseph Cote, a farmer, residing in the parish of St. Laurent, in the Island of Orleans, deponed that he saw the *Northern* passing down just before the accident occurred, and in his opinion she was passing rather closer to the shore than vessels of her size generally do, and he expected to see some accident happen from the proximity of the steamer to the land.

Louis N. Lachance, the pilot in charge of the *Northern* at the time of the accident, deponed, that he noticed a short time after he left Quebec with her that she was not answering her helm, and that it was three or four minutes after the helm was put hard-a-port before she answered it. On the way down to Indian cove, he found she was a very bad steering vessel, and that the men could not judge the time she would sheer on one side or the other of the river; he does not think it possible to meet with a worse steering vessel than the *Northern*. Between Quebec and St. Patrick's Hole she sheered occasionally, and he tried to keep her steady with as little helm as possible. About St. Patrick's Hole he thought she was too near the north shore, and he ordered the helm a-port, when she took a broad sheer. He then ordered her a-starboard, and when he got her right, he ordered the helm steady. When he got a little less than half-a-mile from the Point St. Lawrence Light, being thus about a quarter of a mile to the southward of the north shore, he noticed her inclining slightly to the northward, when he immediately gave the order "Port." Seeing her still inclining to the shore, he gave the order "Port yet." Seeing that she was still going in, he sung out "Hard-a-port," and they answered "Hard-a-port." Finding that she was sheering in, he said, "Is the helm hard-a-port?" and the answer was "Hard-a-port." He then sent the first officer into the wheel-house to see that it was all right, and he answered him that the helm was "Hard-a-port." Just a little above the wharf she was answering her helm fast, by going off to starboard, and he thought she would have cleared, but she ran ashore just opposite Point St. Laurent wharf, owing, as he thinks, to the reason she was so long in answering her helm. If she had been twenty or twenty-five feet to the southward of where she lies now, she would have gone clear. The reason why he did not stop her before she went ashore was, that she was in the act of answering her helm smartly at the time, and it would have been too late either

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to stop her or to let go her anchor, as she was going at the rate of 12 or 13 knots at the time. If she had been a steamer that would steer well, she would have cleared nicely. When she struck, her head slewed round a little.

Having given the principal points in the evidence adduced before the Court, and having carefully considered the whole case, the undersigned have arrived at the conclusion that the cause of the accident in the first place was the difficulty experienced in steering the vessel, and making her answer her helm quickly. A majority, indeed nearly all the witnesses, gave evidence that she steered badly, and could not be depended upon to answer her helm promptly, more particularly in rivers and narrow channels, where she might be liable to run ashore, or run other ships down when she would take a sheer.

This was probably owing to some defect in the shape or size of the rudder, or in the mode of placing it; and it appears from the statements of some of the witnesses that the *Northern* is ruddered differently from the majority of other steamers or sailing vessels. She appears to be a long time under some circumstances in answering her helm, and when she does so, she is apt to sheer about.

The undersigned are of opinion that if the *Northern* had answered her helm as promptly as other vessels of her size usually do, the accident might, probably, not have happened.

The second cause of the accident, the undersigned are of opinion, was the mismanagement of the pilot in taking her down too close to the north side of the channel, and in delaying too long in putting her helm to port or even hard-a-port, when he found she was so close to the shore.

It does not appear, by the evidence, that the *Northern* was very long in answering her helm just before the accident, when it was put to port and hard-a-port; but at the rate of speed at which she was going with the tide with her, and consequently having less steerage-way than she would have had if she had been going against the tide, and being such a long vessel, the pilot appears to have delayed too long in giving the order to port the helm or put it hard-a-port. When the helm was put hard-a-port it appears, by the evidence of Cooper, the quarter-master, who was at the wheel at the time, that she was just opposite the lighthouse and was taking the ground, showing that the order was given too late. Hoffman, the second mate, also deponed that there was only five or six seconds between the first and second order to port the helm, and only ten to thirteen seconds between the first order, "port," and the last order, "hard-a-port"; and from the time the order, "hard-a-port," was given to the time the vessel struck, not more than five or six seconds intervened. He thinks it was only two minutes and a-half from the time she was at St. Patrick's Hole, or a little below it, till she struck. Bernier, the mate, gave his evidence, that he thought the pilot kept her too close to the island after she passed Patrick's Hole. Macdonald, the quarter-master, who was at the wheel at the time she struck, thought that she was rather close to the shore, and he states that when she was steady, some distance before she came to the light, the order was given to "port," then port again, which she did not seem to answer, then hard-a-port, and immediately after that he noticed her head inclining to starboard, and it was then evident that she was beginning to answer her helm just before she struck on the rocks. All of this evidence goes to prove that there was not sufficient time allowed for the vessel to answer her helm and clear the rocks.

If the *Northern* had been in the hands of an older pilot, who had had some experience in piloting large steamers up and down the river, it is probable that he would have used more caution in taking her down, and would have kept her in mid-channel, even if he had to go at less than full speed.

It was the first steamer Mr. Lachance ever piloted in the St. Lawrence since he became a pilot, although he appears to have been most anxious to do his duty, and to have been most attentive while in charge of the steamer. He knew, however, that she was a difficult vessel to steer; and being the first steamer he had been in charge of since he became a pilot, it does not appear that he exercised sufficient caution in taking her down as he did. Other pilots have taken her up and down, and had avoided accidents,

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and it is probable that in more experienced and cautious hands this accident would not have happened.

The undersigned is therefore of opinion that the pilot was to blame in the matter, and should be censured accordingly.

The undersigned does not see cause to cancel or suspend the certificate of competency or service possessed by any person in charge or engaged on board the steamship *Northern* on the voyage when the disaster occurred.

Respectfully submitted.

(Signed,) WM. SMITH.

Trinity House, Quebec,
24th June, 1873.

QUEBEC, 26th July, 1873.

SIR,—Having carefully considered the evidence taken in the investigation as to the cause of the wreck of the *Northern*, I am of opinion that if the *Northern* had steered as well as other vessels of her size, the accident would not have occurred; but I consider that the pilot having been informed before leaving port that the ship required to be carefully watched, he should have kept her more in mid channel instead of running down so close to the north side of the river, and, consequently, that he did not exercise sufficient caution and judgment in taking her down as he did. I believe that the pilot gave the orders to "port" and "hard-a-port" in good time, and that the *Northern* would have passed clear if she had answered her helm quickly.

I have, &c.,

(Signed) VITAL TETU.

To the Honorable P. Mitchell,
Minister of Marine and Fisheries.

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APPENDIX No. 41.

REPORT OF INVESTIGATION INTO CAUSE OF WRECK OF STEAM SHIP "CITY OF WASHINGTON."

It having been reported that the steamship *City of Washington*, of the Inman Line, had been wrecked on the reefs off Little Port Ebert, on the south-east coast of Nova Scotia, the Governor-General in Council directed an investigation to be made into the circumstances attending the disaster, in conformity with Act 32 and 33, Vict., chap. 38.

During the progress of this enquiry, I have been assisted by Captain George A. Mackenzie, a retired shipmaster, and Mr. D. M. Browne, a navigating lieutenant in the Royal Navy, and every effort has been made to ascertain the causes which led to the loss of the ship.

It appears that the *City of Washington* was of the burthen of 1,951 tons, and was at the time laden with a general cargo, part of which consisted of about 300 tons of steel rails, and 700 boxes of tin. She was commanded by William Robert Phillips, who held a Board of Trade Certificate of Service, (No. 45,472). There were also four executive officers on board, but, with the exception of the 3rd officer, who had sailed in her previously, both master and officers were strangers to the ship. The ship's complement of men was ninety-six, inclusive of firemen, stewards, &c.; and she had on board at the time of the disaster, twenty-nine saloon and 442 steerage passengers.

She left Liverpool bound for New York, on the 24th June last, and called at Queenstown the following day. On the passage to Queenstown, it is stated in the evidence, there did not appear to be any derangement of the compass. Fastnet Rock Light was passed at 11.38 p.m. on the 25th June, and a course was shaped W. N. W. On the 26th morning, observations and the sun at noon, placed the ship in latitude 51° 29′ N. and longitude 13° 14′ W.; and by working up the log, there is no material difference between the position by observations and the dead reckoning. On the 27th forenoon, sights and the sun at noon, placed the ship in latitude 51° 45′ N. and longitude 19° 40′ W.; but the position by dead reckoning (not shewn in the log-book) places the ship forty miles south of that shown by observation, and here, no doubt, is the beginning of the misfortune that attended the *City of Washington*. It does not appear that the dead reckoning was kept up to this period; had it been done, it would have been clearly seen that the compasses were affected. On the 2nd July, at midnight, the bearing of the Pole Star was observed by the first officer, between the passing clouds, but as he states it was a very indifferent observation, no great reliance could be placed on it. From the 27th June, until the time she struck (with the exception of the above bearing) no observations could be taken, owing to the prevailing thick fog, and consequently, the ship had to be navigated entirely by dead reckoning. On the 2nd and 3rd of July, she must have passed over the Grand Banks of Newfoundland, when soundings might have been obtained, and by that means a fresh departure taken, but unhappily, the presumption that they were too far to the southward, for soundings prevailed, and led the master to neglect this necessary precaution. To this omission, together with the discrepancy in the deviation of the compasses, may be attributed the loss of this fine ship.

It would appear that a good look-out was kept during the voyage, and that no blame can be attributed to any of the junior officers of the ship; and that when she took the ground on 5th July, at 1.15 p. m., the boats were lowered with alacrity, and the passengers and crew landed in safety.

That this accident should have occurred so near the main land, in broad day-light and with fine weather, is a matter for which all must be devoutly thankful, for had it happened in the dead of night and stormy weather, but few of the 567 souls on board could have been saved from their perilous position.

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Having duly weighed all the circumstances, and having worked up the reckoning as shewn in the log-book, I am of opinion that it was imprudent to ignore the dead reckoning between the 25th and 27th June, which shewed that the ship was considerably to the northward; and as this could not have been due to Rennell's current, it must have shewn that the compasses had a large amount of easterly deviation.

It was also imprudent to pass the Grand Banks of Newfoundland, without trying for soundings to correct the reckoning, seeing that for six days no observations could be obtained, and as thick weather prevailed for two days after so passing the Banks, it was highly imprudent to continue at full speed without taking a cast of the lead, to show that the ship was off soundings, and particularly so, when it ought to have been known by the master that so much more iron and steel had been placed on board since the compass corrections had been obtained.

Under these circumstances, I am of opinion that the Master's Certficate of Service held by William Robert Phillips, the master, should be suspended for the space of one year from the date of the loss of the steamship *City of Washington*, and this certificate is hereby suspended accordingly.

Given under my hand at Halifax, Nova Scotia, the 17th day of July, 1873.

(Signed,) P. A. Scott,
Capt. R.N., Commissioner.

We concur in the above.

(Signed,) G. A. Mackenzie.
(„) D. M. Brown.

Approved and confirmed.

(Signed,) P. Mitchell,
Minister of Marine and Fisheries.

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APPENDIX No. 42.

REPORT OF INVESTIGATION INTO CAUSE OF WRECK OF STEAMSHIP "PRECURSOR."

MONTREAL, 30th July, 1873.

SIR,—We have the honor to acknowledge receipt of an Official communication from the Department of Marine and Fisheries, under date 9th instant, intimating that, in accordance with the provisions of the 5th section of the Act 32 and 33 Vic., cap. 38, we had been appointed under an Order in Council, by His Excellency the Governor General, a Court or Tribunal, before which a formal and legal investigation should be conducted, with a view of ascertaining the cause of the wreck of the steamship *Precursor*, on the 30th ultimo.

We beg to state that on the 22nd inst., after having taken the oath of office required by statute above mentioned, we, in due form, opened the investigation. There were present the following persons: John Johnson, captain of the said vessel *Precursor*, assisted by his Attorney, Mr. Lunn, advocate of Montreal, Hector Hamelin, branch pilot in charge of the *Precursor* when the accident occurred, assisted by his attorney, Mr. Angers, Messrs. Langlois, Angers and Colston, Quebec.

Before proceeding we deemed it proper, in order to accelerate the proceedings, to secure the services of Mr. Matthew Hutchinson, as clerk, to take a correct record of the evidence in shorthand, in accordance with the mode recently introduced into our Courts of Law.

We have now the honor to transmit for your inspection the evidence so taken in our presence. It consists of the depositions of John Johnson, captain aforesaid, Hector Hamelin, pilot aforesaid, and George Parkin, first mate; James Newdick, second mate; Carl Carlson, seaman; James Marshall, second engineer; all four being officers of the said steamship *Precursor* at the time of the disaster, under consideration also the evidence of George Demerce, inn-keeper at Montreal, Pierre Gagnon, pilot; Alfred Rudolf, harbor master, and Alexander Sclater, Port warden, the last two being experienced old sea captains, which was all the evidence adduced in the case. The witnesses were all produced by Captain Johnson and Pilot Hamelin, with the exception of Messrs. Rudolf and Sclater, who were called by the Commissioners.

The evidence, as will be seen, is somewhat conflicting, but upon points which, in the opinion of the Commissioners, are not of much importance.

The *Precursor*, a vessel of 216 feet keel, 24 feet beam and 90 horse-power, having crossed the Atlantic, receiving a cargo of coal at Pictou, arrived at Quebec on the 28th June, and there placed in charge of the pilot named, arrived at the current St. Mary Hochelaga, about 9 o'clock on the morning of the 30th, and endeavored to proceed up the current, was stranded on a rock or shoal alongside of Isle Ronde.

The following points appeared in evidence. From the impression the pilot received of her propelling power on the voyage from Quebec, from observation and the statement of the captain that her greatest speed was 7½ to 8 knots; not sufficient power in his opinion to go up the middle of the channel, and under an accepted impression that the current is less rapid at the south than on the north portion of the channel, the pilot decided to make the attempt to ascend as near as practicable to the shore of Isle Ronde, stating in his evidence that when as far up as a point called the "Spur" on Isle Ronde the vessel was 500 feet from the shore, and that from that point, she was carried down by the force of the current about 500 feet, where she took the bottom, having drifted towards the Island in her descent.

Assuming that the vessel did drift, as contended by the pilot, her bow when stranded was only 50 or 60 feet from shore, and the rock or shoal on which she grounded sav 125 or 150 feet from shore; the pilot's estimate of distances is inaccurate, inasmuch as he stated the width of the river to be 900 yards or 2,700 feet, it being established by other evidence, that the river is only about 1,300 feet at that point, and the channel 800 feet

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wide. The Commissioners are of opinion that the vessel, when at the highest point she had attained, was much nearer the shore than the distance stated by the pilot.

The pilot contends that when the vessel was drawn back by the current, although still steaming to her full power, all steering control over the vessel was lost; anothe pilot called by him said the control was much less than when "going ahead;" while Captains Rudolf and Sclater said the control of the vessel by the rudder was not impaired under the circumstances named, and that an order to port the helm would, at any time before she had taken the ground, have brought the vessel into the channel and avoided the accident.

The evidence of the captain and mate of the *Precursor* is given that the rate of speed reported to the pilot was the result of actual observation during her voyage, and the second engineer stated in his evidence that, at the time the steamer stranded, she was making 53 revolutions, and carrying a pressure of 52 lbs. steam, which was up to the highest capacity.

While the Commissioners recognise the motive of the pilot in keeping towards the shore of the Isle Ronde to have been the result of a doubt in his mind as to her ability to stem the current where it was more powerful, they must nevertheless declare their opinion that he is wholly to blame for the occurence of the accident.

The pilot, from his knowledge of the route, and the opportunity, on the voyage from Quebec, of ascertaining the capability of the vessel entrusted to him, must be held responsible for her safety in the absence of any misrepresentation on the part of the officers, or the occurrence of any intervening accident, such as the derangement of machinery, steering power, or other contingency beyond his knowledge or control. No such intervening influence being set forth in the present case, the vessel was not necessarily in a position of peril, because her power proved insufficient to stem the current; or, if so, the pilot's duty was not to have made any attempt that would imperil her safety under such possible contingency.

The pilot's notions as to the width of the river and channel at the point in question prove to have been very inaccurate; for while, in his evidence, he speaks of the width of the river as 900 yards or 2,700 feet, it is established by Captain Rudolf that it is only about 1,300, and the ship channel about 800 feet. The pilot states that the steamer, after getting as far up as a place called the "Spur" on the Island, she stood about 500 feet from the shore, and that she drifted, having to contend with a too rapid current, and struck a rock about 500 feet below the "Spur." Assuming this statement to be correct. as her bow, when stranded, was only about 50 or 60 feet from shore, it must appear evident that if the vessel had stood at that distance from the Island at the time, there was ample room and time to have turned her head to port, and thus have avoided the accident. The Commissioners are of opinion that the vessel was much nearer shore when under way than what is stated by Mr. Hamelin.

His gross inaccuracy with respect to the width of the channel might possibly account for his error in estimating the distance from the Island to his vessel when running up. This result is all the more to be regretted because Mr. Hamelin is proved to be a pilot of 25 years' experience, and who has piloted the mail boats (Allan line) for many years, during the whole of which time he never was the subject of any complaint; but in the discharge of our duty we feel bound to express our opinion, the more so as the law appears to impose that duty upon us. Be that as it may, the evidence submitted is precisely what was said by the witnesses, and you will be better able to appreciate the opinion at which we have arrived.

We have, &c.,

(Signed,) A. M. Delisle,
Chairman of Committee.
William Workman,
Hugh McLennan.

To the Hon. Peter Mitchell,
Minister of Marine and Fisheries, Ottawa.

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APPENDIX No. 43.

REPORT OF INVESTIGATION INTO CAUSE OF WRECK OF THE BRIG "ROYAL SOVEREIGN."

HALIFAX, May 28th, 1873.

SIR,—In pursuance of an Order in Council, dated 24th April, and directions from the Department in connection therewith, I have held a careful investigation into the circumstances connected with the wreck of the *Royal Sovereign*, brig, on the rocks off Glasgow Head, Chedabucto Bay, on the 11th March last.

The *Royal Sovereign* is a brig of 330 tons, registered at St. John, N.B., and was owned by A. L. Palmer, Esq., M.P., D. J. McLaughlin, jun., and others of that city. She was commanded by William Cornelius Breen, as master, but he holds no certificate either of competency or service. On the 12th December the vessel left Sydney, C.B., with a cargo of coal for Boston, but on the followimg morning she encountered a heavy gale from the N.E., which split all her sails and made it absolutely necessary to put into port for repairs. Under the circumstances, I consider the master acted wisely in putting into Cape Canso, as with the canvas she then had the vessel was not in a fit state to encounter heavy weather, nor could she have contended with a head wind. At Cape Canso the facilities for sail-making and repairing a ship of this class are very limited, which I think is sufficient to account for her not being ready for sea till the 20th January. The master did not proceed on his voyage, but remained at Canso Harbour for upwards of three weeks, when his vessel was driven from her anchors on shore, at the top of high water. He urges as an excuse for delaying so long in port that the weather was boisterous; but after carefully examining the Meteorological Journal kept by the keeper of the Cranberry Island Lighthouse, I am of opinion that he might have proceeded on his voyage, had he so wished. This long and unnecessary delay in port aroused the suspicions of the owners, and led them to send George Eccles Sands, a ship-master of the Dominion, holding a certificate of competency, to Cape Canso, with directions to take charge of the vessel. They at the same time wrote to Capt. Breen, directing him to give up command, and also wrote to the Collector of Customs at Cape Canso, requesting him to endorse Capt. Sands' name on the Register as master. Capt. Breen, however, positively refused to give up charge, assigning that his successor was not prepared to settle the wages due to him, amounting to about $408, and the collector refused to interfere. Finding that he could not get possession, Capt Sands left Canso on the 6th March, with the intention of communicating with the owners, and on the 10th Capt. Breen took the ship to sea, but being overtaken with a snow storm, he attempted to return into harbor, and in doing so stranded the brig on the rocks off Glasgow Head. There is no doubt the vessel was lying in a very dangerous position; and I am of opinion, considering the state of the weather, no available means would have proved effectual for floating her during the three or four days that elapsed before she was sold; but I, nevertheless, consider that the captain should have made an effort to communicate with the owners before he allowed their property to be sold, and particularly so as he must have known that, under the peculiar circumstances in which he retained the command, his actions were more likely to be called in question.

I would wish particularly to call the attention of the Department, to the manner in which the vessel was sold, and how the sale was conducted. Mr. Thomas C. Cook, of Cape Canso, who knew perfectly well that Captain Breen was acting for the owners, after he had been directed to give up the ship, was appointed by the captain to act as his agent, and he advertised the vessel to be sold, the sale to take place on the 14th. This left an interval of only three days, notwithstanding the roads were so blocked with snow, as to make communicating with the place in so short a time, a matter of impossibility. The

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terms of the sale were given out as cash for all sums up to a thousand dollars, but over that amount, approved drafts. In such a small mercantile community as that of Cape Canso, shut in, as the place then was, and with such short notice, it appears to me unreasonable to expect that a purchaser should be provided with ready cash to so large an amount; and there is every reason to suppose, that had this not been a condition of the sale, the vessel and cargo would not have sold for such a trifle. Mr. Cook, who also acted in the capacities of Notary Public, and Auctioneer, in addition to that of agent, bought the hull for $650, and the cargo, which consisted of about 500 tons of coal, for $60—the gear was sold to different persons, making total proceeds of sale $1,530. Mr. Cook deducted the fees due to himself, in his several capacities, from the proceeds of the sale, before turning the money over to Captain Breen. The captain then deducted his own wages, paid wages of his crew and other expenses, and afterwards turned over the small balance of $347 to the owners at St. John.

The weather having moderated, the vessel, was lightened of her cargo, and got off the rocks 19th March—she now lies in Canso Harbor.

I have stated that, after leaving port on 10th March, the *Royal Sovereign* was overtaken by a snow storm, which compelled the master to run for Canso Harbor, and in doing so he grounded his vessel on the rocks off Glasgow Head. Captain Breen says, that he rounded the Black Rocks closely, and, therefore, knew his exact position, and yet, within a distance of ¾ of a mile after passing these rocks, the vessel is stranded. This can only be accounted for by the fact that, although running before a thick snow storm, the master took no measures for ascertaining the speed of the ship, neither did he once heave the lead. Had the latter most simple precaution been taken, it would have shown when the vessel was in the channel leading into the harbor.

Under all these circumstances, I felt it my duty to report that Mr. C. Breen, master of the Brig *Royal Sovereign*, took that vessel to sea, after receiving positive directions from her owners to give up their property, that he stranded the vessel on the rocks off Glasgow Head, through the most culpable neglect to take the most ordinary precautions for her safety, and that, aided and abetted by Mr. Thomas C. Cook, a magistrate at Cape Canso, who acted as agent for the vessel, and auctioneer, he allowed her to be sold at auction, in such a manner as to greatly sacrifice the interests of the underwriters.

I have, &c.,

11th August, 1872. (Signed,) D. M. Brown.

Approved, (Signed,) P. Mitchell.
Minister of Marine and Fisheries.

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APPENDIX No. 44.

REPORT OF INVESTIGATION INTO CAUSE OF WRECK OF STEAMER "BAVARIAN."

TORONTO, December 11th, 1873.

To the Honorable
The Minister of Marine and Fisheries.

SIR,—In compliance with the letter from your Department of 10th November, informing me that I had been appointed in pursuance of the 5th Sec. of the Act 32 and 33 Vic: cap: 35, to hold a Court or Tribunal to investigate into the circumstances connected with the burning of the steamer *Bavarian* on Lake Ontario, on the night of the 5th November, by which 14 lives were reported to have been lost, I took immediate steps to summon witnesses, and appointed Monday, the 17th day of November, for them to meet me at the Trinity House, Montreal. The evidence at Montreal occupied a week's time—the investigation was then continued at Kingston and Toronto.

A transcript of the evidence, which was taken in short-hand, is herewith appended.

The *Bavarian* was an iron paddle-wheel steamer of 230 tons register, and 427 tons gross. She was built in Montreal, and came out in the spring of 1873. The engine was about 18 years old. It was taken out of the steamer *Kingston* after the burning of that vessel, was repaired, and put in the new hull. The engine, which is known as a beam engine, was placed about the centre of the vessel, with the steam cylinder towards the stern and the cranks forward. The engine-room was open to the main deck saloon fronting the ladies' cabin. The boilers were under the deck on each side of the engine, the front of the boiler towards the bow, and just past the crank room. The steam chimneys, with their smoke-pipes, stood just forward of the crank room.

The steamer was fitted in the usual manner with a main saloon on the promenade deck, extending from about 30 feet from the stern of the vessel clear aft, with state-rooms on each side, and the usual passage way along the side of the engine-house.

There was a saloon on the main deck aft, with the purser's office and ladies' cabin opening from it.

The sides of this saloon opened out on the guard to the after gangways.

The paddle-wheels were pretty near the middle of the boat. The working beam of the engine, which was entirely of cast iron, weighing several tons, stood about seven or eight feet above the upper or hurricane deck. The crew of the vessel, all told, usually numbered about 32 persons, and there was accommodation for 175 to 180 passengers. There were two pairs of boats' davits, one on each side immediately aft of the paddle-wheel houses. There were three life-boats and a dingy, two on the port and one on the starboard side. The dingy was also on the port side. All the boats were carried on the hurricane deck. Two of the boats appear to have been ready for lowering with the falls attached. The dingy was carried inside one of the boats.

The third boat was carried on the upper deck on the port side, alongside the davits. There were two life-preservers in each state-room, in all 200 on board. The complement not in the rooms were kept in a pantry amidships off the main saloon. The steamer appears to have been well found; she was inspected in June, and obtained a certificate from Mr. Inspector Befort.

The steamer left Toronto at 5 o'clock p.m. on Wednesday, the 5th November, with a general cargo, the manifest of which is herewith appended, and in good sailing trim. There were on board six passengers—three ladies, two gentlemen and a young lad, and 34 of a crew all told—two of whom were working their passage. The wind was off shore from the northward—the vessel's course being down the lake, running 10 or 11 miles an hour, under about 38 lbs. of steam. Of the cargo, it will be seen that there were on

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board 22 casks of high wines or spirits; this was placed next to the crank room forward between the steam chimneys and over the fronts of the boilers. About 8 p.m., when 12 or 15 miles off Whitby Light, the weather still calm with a moderate breeze off shore, and a short cobbling sea, every one on board was startled by a sharp report coming, as all supposed, from either the engines or the boilers.

This was immediately followed by a second and third report. The chief mate, Henderson, who was at the time at the pilot house, was the first to see that the machinery was broken, and that the tie beam connecting the heads of the forward king-posts over the roof of the saloon was carried away by the falling of the connecting rod and that part of the beam attached to it. Judging by the evidence, the working beam of the engine (which is broken vertically across the middle) was the first cause of the accident.

This was followed by the crash of the falling beam. The third report arose from the piston of the engine being driven, on the up stroke, through the top of the cylinder. That portion of the beam attached to the rod made its way through the roof and deck of the saloon down to the main deck, where the casks of spirits, before referred to, were stowed—breaking through them, and their contents, running down upon the fronts and into the furnaces of the boilers, at once ignited. The suddenness of the fire which followed will be readily imagined. Apprehensions that the boilers would burst under the effects of this fire (which was groundless) seemed to be general among all on board. Henderson, the first mate, who was in the pilot house at the time, at once ordered the man at the wheel to put the vessel's head towards the shore, which was done, as the wheelsman states that the vessel came round until the wind entered the open window in front of him.

The mate then made immediately for the boats on the port side, and was followed there by the pilot Dufour, who came from the main saloon, where he was sitting at the stove with the lady passengers, and ran out forward on hearing the noise, and from there found his way to the ladders on to the hurricane deck, where he joined the mate. The second mate, Bradley, and six of the crew got to the boats from different parts of the vessel, almost instantly, some of them assisting in lowering the first life-boat. This boat was swung out on her davits and lowered speedily—perhaps not exceeding, from the time of the first crash to the time she reached the water, one minute and a half. The after-part of the boat when she touched the water was just forward of the port gangway, and at this time six of the crew, with the pilot Dufour, were in her, and immediately shoved off from the steamer—lending no hand towards the rescue or assistance of those about them, except the negro cook, to whom they put out an oar—although appealed to by the purser to take the ladies' maid and also the passenger Parmenter, all of whom were at the gangway close to the boat, and from which the ladies' maid jumped into it, regardless also of the commands of the chief officer Henderson, who called to the pilot to come back to the boat. The two mates remained above, and had now the work of launching the second life-boat, and chiefly to Henderson's exertions the lives of the 13 saved in the boat are due, and for which he deserves great praise. With the fire, which was under full headway and close upon them, the boat was got over the side, falling, end on, into the water, and fortunately, although full of water, coming up under the guards—from which most of those saved got in—others being pulled in from the water by those in the boat. No effort was made to save the captain, who was on a pail-rack in the water not far from the boat, and who called to the second mate clearly, to save him. The mess-room boy, Barry, who was at the other end of the rack, neared the boat, to which he struck out, and reached and was taken in. The end of the rack, released from the weight of the boy, rose out of the water, the opposite end going down with the captain on it. This was the last seen of him. Except those who got to the boat by their own exertions, nothing appears to have been done to save any one—the boat being full of water—it was no doubt thought by all on board, that there was little hope of safety for themselves.

The boat had now to be bailed out, which was done with hats and caps, and this appears to have taken from twenty minutes to half an hour, when the boat left the steamer to overtake, according to the testimony of the chief officer Henderson, the pilot's boat and then return to the wreck. This, however, as the pilot's boat had so great a start, was

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not possible. Much may be said in extenuation of the conduct of persons acting under such terrible excitement, yet there is no excuse for the pilot Dufour leaving the steamer as he did, with only 9 persons in a boat capable of holding 25 or 30, nor for the first officer leaving, after having bailed out his boat with, only 13 persons in a boat capable of carrying double that number.

It is reasonable to suppose that the lady passengers, who were together on the promenade deck forward when last seen, stood there uninjured when the second boat left the steamer, and remained there to perish, in the fire. Had this boat gone around the steamer after she was bailed out, the ladies and others might have been saved.

The fire commenced at the smoke pipes, near the middle of the vessel; and as the head of the vessel had been brought round to the wind, and the after part having more surface exposed to the wind than the forward part, she would retain her position, and the fire would be slow in reaching the bow against the wind. The fact of the stem-post of the vessel still standing, and spear-pole uninjured, shows that this part of the steamer was, under the circumstances, the last to burn, and the least exposed to the fire. Concerning Captain Carmichael, the evidence is conflicting. The pilot, Dufour, states that he was in the upper saloon at the stove with him and the ladies when the first crash commenced. McGowan, the fireman, states positively, that the captain passed him in the saloon just outside the engine-room; that he said "this is going to be a big fire," and ordered everyone to get into the boats. He is next seen with the ladies on the promenade deck forward with a life-preserver on; from there he jumped overboard, following the mess-room boy, Barry.

The two swam to the pail rack, and with it swam towards the second boat. The boy was saved, as before mentioned, and the captain lost. If the evidence of the fireman is accepted, and I think it is less liable to be mistaken than the pilot's, who may be in error as to the exact time when he last saw the captain at the stove, the captain's order to the fireman to get to the boats was judiciously given, and his passing the gangway close to where the boats must be lowered to go to the saloon, is evidence that his object was the safety of the ladies. His inability to return to the boats on account of the fire, after reaching the ladies on the forward deck, and his jumping overboard was probably with the intention of bringing the boat to their rescue.

It will be seen by reference to the evidence of Mr. Alexander Milloy, the secretary of the company, and Captain Howard, superintendent of the company's steamers, that the officers of the steamers are selected by them—Mr. Milloy engaging the captains, who are chosen from the pursers, and Captain Howard engaging the mates and other officers of the steamers. None of the officers are subject to any examination as to their competency or qualifications for their duty, nor do the company require any certificates to that effect, except from engineers, other than the recommendation of the gentlemen named. The absence of discipline among the officers and crew in the present case shows the necessity for legislation which shall provide against that state of things. It is unreasonable to suppose that an office clerk, no matter how clever or experienced he may be on board a steamer, can exercise the seamanship or coolness required in a time of extreme peril. Had the pilot, in the present case, obeyed orders, and kept his boat near the steamer, it is probable all on board would have been saved.

The stowage of the high wines forward of the crank room, between the boilers, was the immediate cause of the loss of life. This was done by order of the second mate, who was at liberty to stow freight where he saw fit, without knowing its nature or the danger attending it. It is also desirable that the law should provide for the stowage of inflammable material on board steamers. Had these casks leaked, or by accident been broken, the same loss of life would probably have followed. With respect to the equipment of the steamer, the inspector, Mr. Befort, swears that she was, when he inspected her in June last, in all respects according to the requirements of law. The mate, Henderson, also states that she was well found, and the boats were fully equipped in every respect.

The insufficiency of boats on this steamer, during the season of navigation and travel,

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which will also apply to steamers on the other lakes and the gulf of St. Lawrence, is apparent to every one travelling on them. The *Bavarian* had the complement of boats required by law, in fact was better provided, as all of them were life boats. Each of these boats was about 20ft. long, over all, and about 5ft. beam.

According to the evidence, they would each have sustained inside, in ordinary weather, from 20 to 30 persons—little more than one third the number sometimes carried on board the steamer.

With respect to the breaking of the beam, there is some evidence of an old crack on the outside rib, both on top and bottom. Whether this was occasioned by the fire to which it was exposed last year, in the burning of the *Kingston*, it is impossible to determine. There was no unusual strain upon the engine, when the beam gave way, and it had been subjected, during the season, to a much greater strain.

The transfer of the old beam, after it had been exposed to fire in the *Kingston*, it being entirely of cast iron, was, no doubt, injudicious; but it appears to have been carefully examined, and it was supposed to have suffered no injury.

In a passenger steamer of the tonnage of the *Bavarian*, the law requires that three boats shall be carried, but does not define, other than that they should not be less than seventeen feet keel, their dimensions or capacity, in proportion to the number of passengers; neither does it clearly define that each boat shall be hung in separate davits.

I would recommend that the law be amended in this respect, and that every steamer carrying passengers on the lakes and open waters of the Dominion, be provided with as many boats as they can find place for, and of the largest capacity the crew can handle; that each boat be hung in suitable davits, ready at all times for lowering, and that the crew of the steamer be detailed for each boat, and properly drilled in the practice of lowering them, and that the number and capacity of boats for a steamer shall be determined by the Board of Steamboat Inspection.

By the accident to the *Bavarian*, of the six passengers, four were lost, including three ladies, and sixteen of the crew, and including also the captain and chief engineer. A list of the names of those saved and lost is appended.

In conclusion, it is for the Department to determine how far the suggestions here made for the amendment of the law for the safety of passengers and persons on board steamers, may be carried out. The public demands more security against danger from causes over which they have no control than the present law provides. The event of the *Bavarian* disaster shows the urgent necessity for a Marine Law for the examination and granting of certificates to properly qualified officers, and for regulating the discipline and management of Steamers.

I have, &c.,

(Signed,) SAMUEL RISLEY,
Commissioner.

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APPENDIX No. 45.

LIST of Persons to whom Rewards have been granted by the Government of the Dominion of Canada from 30th June, 1872, to 31st December, 1873, for gallant and humane services rendered in saving life from shipwrecked Canadian vessels.

Names and Designations of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards Granted.
Capt. James Cummins, Lighthouse Keeper at Pelee Island, Lake Erie, Ontario.	For rescuing (1) the life of Andrew Poustie, master of the schooner *George Warren*, and that of two others on same vessel which had capsized through the effects of a fierce gale in Lake Erie; and (2) the lives of the captain and crew of the schooner *Tartar*, of Buffalo, wrecked on the outer reef of Point Pelee Island; Mr. Cummins having displayed great bravery and perseverance on both occasions.	3rd July, 1869. 5th Dec., 1870.	Gold watch, value $75.
Mr. William Cline, Lighthouse Keeper at South Wolf Island, Bay of Fundy.	For rescuing the lives of the crew—six in number—of the schooner *Tempo*, of St. John, New Brunswick, wrecked on Green Rock, one of the Wolves Islands group; the crew having been on the rock for many hours without any shelter and exposed to a driving snowstorm.	17th Dec., 1872.	Binocular marine glass, value $30.
The Master of the North-German barque *Collmar*, of Collmar.	The ship *Princess Louise* of St. John, New Brunswick, having been abandoned in a sinking condition, the crew were rescued by the barque *Collmar*, and landed at Fayal; no risk having been incurred in the rescue.	9th Oct., 1872.	Thanks of the Government to captain.
Capt. Samuelsen, of the Norwegian barque *Helen*.	The master and crew of the vessel *Levanter* having been compelled to abandon their vessel while in a sinking condition, about 120 miles from Cape Roca, they were picked up by the Norwegian barque *Helen*, and landed at Balina, one of the Teneriffe group of Islands; no risk having been incurred by the crew of the latter vessel.	22nd Nov., 1872.	do do
Mr. S. Austin Smith, Keeper of Nos. 76 and 77 Boats of Massachusetts Humane Society. Mr. Charles C. Church. Mr. O. Reeny. Mr. William Veder, jun.	The vessel *Mary Givan*, of St. John, New Brunswick, while on a homeward-bound voyage from Philadelphia, having struck on the rocks off the south-west point of Nashawena, became a total wreck. Mr. Austin Smith, observing the vessel in this condition, and the crew in imminent peril of their lives, launched his boat, and, accompanied by three men, succeeded after great exertion in saving the lives of six of the crew. One seaman, however, before the rescue was effected, having unfortunately fallen overboard, was drowned.	1st Dec., 1872.	Gold watch, value $90. Binocular marine glass, value $30. do do do do

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LIST of Persons to whom Rewards have been granted by the Government of the Dominion of Canada, &c.—*Continued.*

Names and Designations of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards granted.
Capt. J. L. Sears, of the American brig *Eliza Stephens*, of Boston, Massachusetts. Mr. Charles Cleveland, 1st Mate. Two seamen.	The schooner *Seriole* of Liverpool, Nova Scotia, while on a voyage from Liverpool to Demerara, was totally wrecked through the effects of a hurricane, and the crew, after remaining on the wreck for twenty days almost without food or water, enduring great privations and suffering, from the effects of which the master and one seaman died, were rescued by the brig *Eliza Stephens*; Captain Sears of that vessel having sent his lifeboat manned by the mate and two seamen, who, after several attempts, succeeded at length in rescuing the survivors—four in number.	14th Sept., 1872.	Gold watch, value $75. Gold watch, value $75. $20 each.
The Master of the ship *J. A. Wright*, of Bath, United States.	For rescuing from the wreck of the brigantine *Napier* of Sydney, Cape Breton, the master and crew of that vessel. No risk incurred.	15th Dec., 1872.	Thanks of the Government to captain.
Mr. Archibald McLean, of Boularderie, Cape Breton, Nova Scotia.	The schooner *Anna Maria*, of Arichat, Nova Scotia, while on a voyage from Sydney to Arichat, struck on Point Aconi, near the entrance to Big Bras d'Or Lake. The point where the vessel struck presents a very rugged appearance, and the cliffs rise almost perpendicularly to a height of about 50 feet. The schooner shortly after striking commenced to break up, the sea making a complete breach over her, and dashing against the cliff with tremendous violence. In order to save themselves from being washed overboard the crew were obliged to cling to the rigging and sails, and remained in that position the entire day, being watched by persons on the shore who, owing to the raging sea and the distance of the vessel, were unable to render any assistance. Eventually, however, the entire crew, with the exception of the master, were rescued, principally by the exertions of Mr. McLean, and hauled up the cliffs by means of ropes. The captain, after remaining in his perilous position till late at night, was obliged to let go from exhaustion, which, being observed by Mr. McLean, he ran into the breakers, fastened a rope round the captain, and hauled him up the cliff.	12th Dec., 1872.	Gold watch, value $100.
Capt. John Cooper Wilson, of the Allan S.S. *Acadia*.	For rescuing the crew of the schooner *Swordfish* of Miramichi, New Brunswick, while that vessel was fast sinking, and when they had lost all hope of being saved.	8th Nov., 1872.	Gold watch, value $100 to captain.

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LIST of Persons to whom Rewards have been granted by the Government of the Dominion of Canada, &c.—*Continued.*

Names and Designations of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards granted.
The master of the German steam vessel *Humboldt.*	The barque *Jessore*, of Windsor, Nova Scotia, while on a voyage from New York to Liverpool, was descried in a sinking condition by the steamer *Humboldt*, the master of which vessel, on attempting to launch to the assistance of the wrecked vessel, had one of his boats broken to pieces, and another one staved in, when the remaining members of the crew of the *Jessore* left the wreck in their own boat and succeeded in getting safely on board the *Humboldt*, three of the crew having been washed overboard before the *Humboldt* fell in with the *Jessore*.	29th Jan., 1873.	Thanks of the Government to captain.
The master and officers of the S.S. *Oceanic*, of Liverpool, England. Seamen.	The ship *Linda*, of Pictou, Nova Scotia, while near the port of New York, having lost her rudder and received other severe damage, became unmanageable and waterlogged. While in this condition the *Oceanic* hove in sight, the master of which last named vessel, in response to signals of distress, promptly despatched a boat to her assistance, and took off all the crew—seven in number—and landed them safely in New York.	Feb. 1873.	Thanks of the Government to master and officers. $30 to crew of rescuing boat.
The Rev. Mr. Ancient, of Turn's Bay, Halifax County, N.S.	For gallantry and humanity displayed in saving life on the occasion of the wreck of the ill-fated steamship *Atlantic*, on Meagher's Rock, 22 miles from Halifax, Nova Scotia.	1st April, 1873.	Gold watch, value $120, and $500 in money.
Edward Ryan, Esq., J. P., of Lower Prospect, Halifax County, N.S.	For eminent services rendered to survivors of the passengers and crew of S.S. *Atlantic.*	do	Gold watch, value $120.
A number of persons.	do do	do	$1,560 distributed amongst them.
Mr. William F. Calvert, Chief Mate of the barque *Freeman Dennis*, of Yarmouth, N.S. Four seamen.	The barque *Glenalladale* of Pictou, Nova Scotia, having been abandoned at sea in a waterlogged condition, her crew—ten in number—were rescued by the barque *Freeman Dennis*, and landed at the port of New York	22nd Mar., 1873.	Thanks of the Government, and binocular marine glass, value $30, to chief mate, and $10 to each of the four seamen.
Sixteen men.	The brigantine *Branch* having, during a furious snow-storm at night, struck heavily on Duncan's reef, the sea broke over her fore and aft, and, clearing the deck, threw the vessel on her starboard side. The crew, to save themselves, were obliged to cling to the weather side of the wreck until daybreak, the cold at the time being very intense. Being observed by the inhabitants of Duncan's Cove and vicinity, four boats were manned and proceeded, during bitterly cold weather, to the wreck—a distance of over a mile—when, after two attempts, the crew—nine in number—were rescued from their perilous position; all, however, in a more or less frozen condition.	28th Dec., 1872.	$200 distributed in equal shares among the 16 men engaged in the rescue, the owners of the boats receiving in addition one share each.

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LIST of Persons to whom Rewards have been granted by the Government of the Dominion of Canada, &c.—*Continued.*

Names and Designations of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards granted.
Capt. Simon Herman, of the schooner *Jessen*, of Lunenburg, N.S. Mr. Geo. Myra, 2nd mate. One seaman.	The brigantine *Mary*, of Freeport, Digby, Nova Scotia, while in a dismantled and waterlogged condition, the crew being nearly starving after remaining 14 days on the wreck, was observed by the crew of the schooner *Jessen*, of Lunenburg, Nova Scotia, the master of which last named vessel, with the assistance of the 2nd mate and a seaman, launched the only boat the *Jessen* possessed, and succeeded in saving all the shipwrecked crew.	27th Sept., 1872.	Aneroid barometer, valued $50, to captain. Binocular marine glass, value $30, to 2nd mate. $20 to seaman.
Capt. Henry Parsell, of the steamship *Tropic*, of the White Star Line.	The barque *James W. Elwell*, of St. John, New Brunswick, having taken fire while on a voyage from England to Valparaiso, the crew were obliged to take to their boats, and after experiencing terrible suffering and exposure for the period of 71 days, from the effects of which seven of them died, the survivors were picked up by the steamship *Tropic* in the Straits of Magellan, treated with the greatest kindness, and carried to England.	18th Feb., 1873	Gold watch, value $100, to captain.
The master of the barque *Howland*, of Boston, U. S.	The vessel *Brothers Pride*, of Annapolis, Nova Scotia, was found by the barque *Howland* in a wrecked condition, with her main mast swept away and two of her crew washed overboard, and the master of the latter vessel, in rescuing the remainder of the crew, had one of his boats stayed in; but neither he nor any of his crew underwent any personal risk.	23rd Feb, 1873..	Thanks of the Government to captain.
Capt. J. S. Crosby, of the ship *Moses Day*, of Philadelphia.	The barque *Morocco*, of St. John, New Brunswick, while on a voyage from Mobile to Liverpool, was discovered on fire by the ship *Moses Day*, of Philadelphia, which vessel immediately bore down to her assistance. The weather at the time was heavy and threatening, but the master of the *Moses Day* sent his boats to the rescue of the burning vessel, and succeeded in saving them, although before all were taken on board the wind had increased to a gale, and the last boat only succeeded after a desperate struggle in putting its load on board.	March, 1873....	Gold watch, value $100 to captain.
Capt. Francisco Goncarlea de Aranjo, of the Portuguese schooner *Conceicas*.	The brigantine *Wild Hunter*, of Halifax, Nova Scotia, while on a voyage from Lisbon to Halifax, came into collision with the brigantine *Marius*, of Monaco, when the *Wild Hunter* being found by the crew to be in a sinking condition, they took to their boats and were picked up about six hours after by the Portuguese schooner *Conceicas*, the master of which vessel landed them on the following day at Cascaes Bay, having treated them with great humanity and kindness while on board his vessel.	30th July, 1873 .	Thanks of the Government to captain.

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LIST of Persons to whom Rewards have been granted by the Government of the Dominion of Canada, &c.—*Concluded.*

Names and Designations of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards granted.
Capt. W. Lewis, of the American schooner *Gertie Lewis*, of Boothbay, Maine. Four seamen.	The brig *Oak Point*, while on a voyage from Halifax to Greenland, was disabled by a severe gale, and the captain and crew were taken from the wrecked vessel by the *Gertie Lewis*, which stood by her for upwards of 30 hours, as a heavy sea was running at the time, and when a boat was ultimately sent to the rescue it incurred considerable risk of being swamped, and was obliged to make four trips before all were taken off.	24th Aug., 1873.	Gold watch, value $80, to captain. $20 to each of four seamen.
Capt. Wm. Hopewell, of the vessel *Countess*, of Halifax, N. S. Two seamen.	The vessel *Sappho*, of St. John, New Brunswick, being wrecked during a heavy gale, the *Countess* stood by her for 12 hours, waiting for an abatement of the gale to enable the crew to launch their boat to rescue the shipwrecked crew, and that on the boat being first launched, it was swamped and with great difficulty the seamen got again on board their vessel. On the proposal to relaunch the boat, the crew, in view of the great danger, demurred to man her, upon which the Captain, although an old man, volunteered to go, but was prevented by the two seamen who made the first attempt, who again manned the boat, and succeeded, in two trips, in saving the six persons on board the *Sappho*.	24th Aug., 1873.	Aneroid barometer, value $50, to captain. Thanks of the Government to each of two seamen.
Capt. Aikens, of the American schooner *J. G. H. Perkins*. Capt. Broadstreet, of the *May Queen*. One seaman of the *J. H. G. Perkins*. Three seamen of the American schooner *May Queen*.	The barque *Helen Patterson*, of Pictou, Nova Scotia, while on a voyage from Pictou to Portland with coal, sprung a leak, and making for Liverpool Harbor, anchored outside the breakwater. A gale having come on, the vessel shortly afterwards filled with water. The crew took to the rigging, where they remained all night, and until 9 o'clock of the following day, the sea beating so high that it was thought impossible to get near enough the wreck to release them from their perilous position, when Capt. Aikens seeing the danger, jumped into his boat, accompanied by one of his men, and at imminent risk to their lives succeeded in rescuing six of the crew. Following the example set by Capt. Aikens, Capt. Broadstreet, of the *May Queen*, sent his boat with three men, who succeeded in saving four persons, the remainder of the crew.	19th Dec., 1873.	Gold watch, value $80, to captain of *J. G. H. Perkins*. Thanks of the Government to captain of *May Queen*. Thanks of the Government to the four seamen.

WM. SMITH,
Deputy of Minister of Marine, &c.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 31st December, 1874.

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APPENDIX No. 46.

LIST OF PERSONS, subjects of the Dominion of Canada, to whom Rewards have been granted by the British and Foreign Governments, from 30th June, 1872, to 31st December, 1873, for gallant and humane services rendered in saving life from shipwrecked British and Foreign Vessels.

1—24

Names and Designations of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards granted.	Governments granting.
Capt. George S. Pearse, of the ship *St. Louis*, of St. John, New Brunswick.	For rescuing, during a severe gale, the captain and crew, eighteen in all, of the wrecked barque *Redan*, of London; great bravery having been displayed by Capt. Pearse on the occasion.	26th Nov., 1872.	Gold watch.....	British Govm't.
Mr. Thomas White, second mate.	.....	.....	£3 sterling.....	do
Mr. John Brown, Mr. Henricks Gericks, and Mr. Alfred Amis, seamen.	.....	.....	£2 each.....	do
Capt. Eldon Mathews, of the barque *Peter Crerar*, of Pictou, Nova Scotia.	For services rendered to the crew of the French ship *l'Elise*, of Dunkerque.	.....	Silver binocular glass.	French Govm't.
Capt. John Cook of the brig *Annie Brown*, of Windsor, Nova Scotia.	For humane services rendered at sea to the shipwrecked crew of the American schooner *Ravenswing*.	.....	Chronometer....	United States Government.

WM. SMITH,
Deputy Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 1st January, 1874.

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APPENDIX No. 47.

REPORT OF THE SECRETARY TO THE HARBOUR COMMISSIONERS OF MONTREAL FOR THE CALENDAR YEAR ENDED 31st DEC., 1873.

HARBOUR COMMISSIONERS' OFFICE,
MONTREAL, 20th February, 1874.

SIR,—I have the honor, by direction of the Harbor Commissioners of Montreal, to transmit herewith, for the information of the Honorable the Minister of Marine and Fisheries, statements showing the receipts and expenditure of the Commissioners for the year ended 31st December, 1873.

The receipts from all sources were as follows, viz :—

	$ cts.	$ cts.	$ cts.
INWARDS.			
On goods subject to ad valorem wharfage :—			
Value, $2,430,925 @ ½ %	4,051 54		
do $7,910,776 @ ¼ %	19,776 94		
On goods subject to specific wharfage	62,947 04		
From Grand Trunk Railway on through goods	4,000 00		
Over, received in fractions	6 95		
Total inwards		90,782 47	
OUTWARDS.			
Wharfages collected on sailing vessels :—			
Steamers and their cargoes (Outwards)		102,719 65	
			193,501 52
LOCAL TRAFFIC.			
Wharfage on goods, inwards	9,868 75		
do do outwards	2,269 45		
Dues on barges and small craft	15,408 86		
do steamers	3,500 85		
Commutation on ferry boats and steamers	14,392 00		
For piling wood on wharves	3,025 74		
do lumber do	7,267 00		
Amount received from Government :—			
For dredging, at Cap à la Roche, &c	12,000 00		
do balance, and for work at Contrecœur	18,752 37		
	86,485 02		
Less wharfages returned	349 21		
		86,135 81	
Interest :—			
City Bank, to 30th June	231 66		
Accrued interest on debentures	74 58		
do do	9 22		
do do	8 49		
City Bank, 1st July to 31st December	1,077 28		
do twelve months' account, No. 2	3,148 84		
		4,550 07	
Debentures sold during the year	95,000 00		
do do	32,000 00		
do do	32,000 00		
do do	4,000 00		
do do	4,000 00		
do do	20,000 00		
		187,000 00	
Carried forward		277,685 88	193,501 52

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REPORT of the Secretary to the Harbour Commissioners.—*Continued*

	$ cts.	$ cts.	$ cts.
Brought forward		277,685 88	193,501 52
Dominion Government:—			
On account dredging plant		50,000 00	
Rent of office, &c		333 33	
Trinity House, for heating office		60 00	
From sales of old iron	200 25		
do planks (Therrien)	55 50		
do sundries from Harbor-master	45 80		
do coals, &c	86 13		
		387 68	
			328,466 89
Total receipts			521,968 41

The expenditure of the year was as follows, viz:—

	$ cts.	$ cts.	$ cts.
Harbor interest		78,411 01	
do dredging		75,990 81	
do repairs		13,915 92	
do expenses, salaries and general management		15,400 41	
Market Basin and Jacques Cartier Pier	3,020 67		
George Bowie & Brothers	9,375 08		
		12,395 75	
Amount paid for coals		17,742 75	
Debentures paid during the year		62,000 00	
New dredging plant, on account	6,753 00		
do do	262 85		
do do	30,101 88		
do do	68 10		
do do	2,141 16		
		39,326 99	
New scows		4,788 00	
Longueuil Ferry Wharf Extension		8,864 02	
Commissioners Wharf Extension	7,266 08		
George Bowie & Brothers	7,069 00		
		14,335 08	
New Spoon Dredge, No. 5		17,765 59	
Chain tug—balance expended this year		5,099 16	
George Bowie & Brothers—advance on timber at Lachine		1,000 00	
Barge "*Hope*"		1,500 00	
Hochelaga Wharf Extension		5,790 27	
McNamee, Gaherty & Co., for work on contracts		43,722 52	
Richelieu Pier		331 75	
Buoys and beacons (channel between Montreal and Quebec)		3,517 41	
Clam-shell dipper		1,444 05	
Total expenditure			423,341 49

I beg to refer you to the Report of the Harbour Engineer, a copy of which is enclosed, which will give you the particulars of the works carried on in the harbor during the past year. The Commissioners have increased their plant by one dredge and three scows.

The chain tug which was being built at the date of my last report has been completed, and has in every way proved successful. This steamer which is of great power was constructed for the purpose of assisting vessels up the current from Hochelaga into the upper portion of the harbor, thereby reducing the cost of towage.

By the Act 36 Vict. chap. 60, to make further provisions for the improvement of the River St. Lawrence between Montreal and Quebec, it is provided that this work shall be performed under the superintendence of the Department of Public Works, or

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by an arrangement with the Harbor Commissioners of Montreal. An Order in Council was passed, bearing date 31st May, 1873, authorizing the Harbor Commissioners of Montreal to do the work, under the direct supervision of the Department of Public Works. The Harbor Commissioners not having the necessary plant at their disposal for this great work, it became necessary to build new and powerful dredges, with a large number of scows. By another Order in Council, passed under date of 10th August, 1873, the Commissioners were authorized to expend the following sums for purchase of plant, viz. :—

Six Elevator Dredges	$270,000
Six Steam Tugs	60,000
Fifteen Scows	45,000
Two Coal Barges	10,000
Total	$385,000

The contracts for the dredges and scows were given out in November last, and are now in an advanced state of completion. The remainder of the plant it is proposed to purchase from time to time as required. The Commissioners hope to be in a position to commence the work early in the coming season.

I also enclose copy of the Harbor Masters' Annual Report, in which you will find much interesting information respecting the trade and other matters connected with the Port of Montreal.

I have the honor to be, Sir,
Your most obedient servant,

H. H. WHITNEY,
Secretary.

(Copy.)

HARBOUR COMMISSIONERS' OFFICE,
MONTREAL, 23rd February, 1874.

SIR,—I beg to lay before you, for the information of the Harbour Commissioners, a statement of the works carried on under my superintendence for the past year, under the respective headings of "Harbour Repairs," "Jacques Cartier Pier and Market Basin," "Commissioners' Wharf," "Hochelaga Wharf," "Extension of Longueuil Ferry Wharf," "Windmill Point Works," "New Dredge Number Five," "New Dredges Numbers Six and Seven," "Chain Tug A. G. Nish," "Buoys and Beacons," "Harbour Dredging," and suggestions for the following season.

Harbour Repairs.—On the opening of navigation last season, considerable ice remained on certain portions of the wharves, and some damage was done to some of the top planking. The Bonsecours Pier suffered a good deal. This pier was covered with 4-inch tamarac plank, and is a good deal decayed, having been down about 17 years. I have had this replaced properly; the cost of same was:—For lumber to Henderson, $920.58; W. H. Hall, for bolts, &c., $195.75; $200 for labour—forming a total of $1,316.33.

The upper side of the Richelieu Pier was also raised out of its proper position by the action of the ice underneath same; the back filling had considerably washed out on account of the repeated dredging in front of said wharf, which is constructed on piles. In repairing this pier, I caused same to be raised about two feet to correspond with the improved level of the wharves as adopted by the Commissioners, and which will prove of immense benefit to the travelling public in getting access to the steamers trading to Quebec. The cost of this improvement has been as follows:—Munro, lumber, $442.63; Henderson, lumber, $567.79; Boyd, iron work, $200; Peck, for spikes, $200; and for labour, $200, forming a total of $1,710.42.

Some damage also was done by the shoving of the ice to the upper face of the old

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portion of the Monarque Street Wharf, by raising a portion of the planking. I had same repaired at once, at a cost of about $800.

A considerable portion of the expense connected with this department has been caused by the purchase of deals to put on the macadamizing, to protect the goods when landed from the vessels. The lower portion of the Victoria Pier is now used as a delivery of general cargo; the surface is macadamized, and we have to cover same with 3-inch deals temporarily. I may say the same of the upper end of the Commissioners' Wharf, used as a berth by the steamships of the "Dominion" line. We purchased last year no less than $2,000 worth of these deals for this purpose, the principal portion of which, however, we have yet on hand, ready for the same purpose next season.

In my Report for last year, I brought under the notice of the Commissioners the question of the removing of the scrapings which accumulate on the wharves. Formerly it was the practice of the Commissioners to oblige ship-owners to remove any accumulation of sweepings from the holds of the vessels, or any ballast which was not merchantable; since lately however, from an increase of business, and a general desire to assist the public, we have undertaken this business ourselves, which has increased our expenses in this department. The distance now to haul this material is increasing from year to year, our nearest deposit being now at Molson's, or causing a haul of one-and-a-half mile in some instances. I suggested last year that the system adopted in New York and other places should be tried here, which consists of a large hopper-bottomed scow, somewhat similar to the scows used by the elevator dredges, to be moored in some central portion of the Harbor, and when full, towed out into the stream and there dumped, as the material is scarcely worth saving. I had proposed to have brought this matter formally before the Commissioners, but, on account of the large contracts now on hand, I would again defer it to another season.

On the 29th September, the authorities of the Grand Trunk Railway altered the gauge of their track on the wharves from the broad to the narrow gauge. A portion of their track on the wharves opposite to the Market Basin, on account of the improvements in raising the wharf opposite this Basin, has left about 500 feet 2 feet below the surrounding grade. I wrote to their Engineer at the time, and brought the matter before you also, but on account of their being pressed elsewhere at the time, they asked for delay, which was granted; but I hope the Commissioners will press upon the Company the necessity of attending to this matter as early as possible next spring.

Last summer the Messrs. Sidey made application to this trust to have cranes placed on the wharves for the accommodation of the public, in removing heavy goods from the vessels. The matter was referred to me to report thereon. I gave the subject a good deal of attention at the time, but I failed to see that they were actually necessary. We might place a crane at some portion of the Harbour, while the vessel requiring it would perhaps, be at the other end, while the cost of removing the vessel down or up to the crane would often cost as much as the extra cost of removing the goods by the ordinary method, besides the risk of moving a vessel in this Harbour.

Another matter to which I would draw the attention of the Board, is the petition of Messrs. Jordan & Benard and others, lumber merchants, engaged in the sale of square and flat timber. These gentlemen petitioned the Harbour Commissioners last summer that some portion of the Harbour be reserved for their particular business. I recommended at the time that the same be formed at or near the gaol, by reserving for them say 600 feet in length, which would be done by curtailing a portion of Messrs. McNamee, Gaherty, and Frechette's contract. It was not, however, adopted until the contract with the above gentlemen was examined, if it were possible to interfere with it. I find that the Board have full power to curtail this contract at their pleasure, and under these circumstances I hope the prayer of the petitioners will be granted.

The total cost of the repairs of the Harbour this season has been $13,915.00.

Windmill Point Works.—No work has been done here this season, pending the action of the Government in regard to their proposed improvements this summer; however, these works are actually under way, and of course are altering the whole of our

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scheme. Our wharf at present is about 510 feet in width at the lower end, and is to be pierced through to make a second entrance to the Lachine Canal, as well as a Basin further up, of a width corresponding to the present Basin Number One of the canal, and leaving therefore our wharf only about 200 feet in width and very difficult to approach; but, however, it can in any case be used as a lumber depot. This expense here this year was about $90, incurred in boring to ascertain the nature of the material here in view of the extension of this wharf further up.

Jacques Cartier Pier and Market Basin.—The contract for this work was given out in the fall of 1871, to the Messrs. Bowie, and during 1872 a considerable amount of work was done, but the contractors were unable to complete their work on account of being kept back by the Commissioners in not providing them with the necessary back filling. This spring, however, as soon as the water was low enough, they recommenced operations by sinking the last crib, about 45 feet in length, and thence there was no delay in completing the whole contract, which was completed and taken possession of on the 21st August, by the ship "Chipawa," which loaded down to a draft of 21 feet, where formerly there was only four feet. The cost of this wharf was $36,681.35, of which the Messrs. Bowie received $25,105.08, and a further sum of $1,200 for about 100 toises of stone for macadamizing.

Commissioners' Wharf.—The contract for this work was also awarded to the Messrs. Bowie, and comprises about 1,100 feet of cribbing, to be sunk in a depth of 24 feet at low water. The contractors have only up to date completed about one-half their work, consequent partly on our not fulfilling our portion of the contract, in not providing back filling, and partly their own; they have now about 600 feet of cribwork sunk, and the superstructure raised to within a couple of feet of the finished levels. They have the necessary amount of oak, tamarac plank and iron on the ground; we have paid these contractors up to date $9,409, not including an advance of $5,700 on timber at Lachine, of which about $1,700 has been used by the contractors, leaving about $4,000 worth of timber there still.

A large amount of dredging has been done in connection with these works which will be found more fully described under the head of Harbour Dredging.

Hochelaga Wharf.—Last winter a contract was awarded to Messrs. McNamee, Gaherty & Frechette, for the construction of this wharf, which extends from the old Hochelaga Wharf upwards to the Longueuil Ferry Wharf, a distance of about 2,300 lineal feet. It was intended at the time when the scheme was under discussion, to have purchased the whole of the land which is now private property lying between these works and the Turnpike Trust, a distance or width of about 300 feet; the price at which some property was acquired a few days before was only 10 cents per superficial foot, but in less than three months, no doubt on account of these suggested improvements, the value of property had risen to 75 and 80 cents per foot, and consequently put it out of the question for the Commissioners to purchase any land, so that there was no surplus for backfilling, and we had to depend entirely on the dredges for same to secure what cribbing had been sunk, which amounts to 971 feet completed, top planking, rings, &c. These constructions have been sunk in 24 feet depth of water, in very little current, and will form next season, when the back filling is properly graded a most important addition to the Harbor, and I hope this spring the Commissioners will not allow the offer of the Messrs. McDonald to pass, to provide us with the surplus backfilling from the Northern Colonization Railway, and in such case we would have the whole of this 971 feet available by the end of May, and taken possession of for the purposes of piling lumber. The cost of this wharf up to date has been $39,044.67, of which the contractors received the sum of $32,986, the balance of $6,058.67, being spent by the Commissioners in placing backfilling.

Longueuil Ferry Wharf—A contract for the further extension of this wharf was awarded to Messrs. McNamee, Gaherty & Frechette, to extend from the end of McNamee's contract of 1872, or say opposite to McMullin & Adams' Tabacco Factory upwards until the Monarque Street wharf is reached; this distance is about 1,800 feet, in 10 feet depth of water. The contractors commenced their work at the upper end of their work, working downwards 800 feet, or to opposite the gaol; if the Commissioners adopt my suggestion

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alluded to elsewhere, of making a timber depôt here, it will curtail this contract about 600 feet.

The whole cost of this wharf up to date has been $24,893.64, of which the contractors received the sum of $16,303. 50, the balance being spent by the commissioners in placing the back filling, &c.

New Spoon Dredge, No. 5.—The contracts for this dredge were awarded as follows: the hull, to M. X. Lefebre, for the sum of $7,485; the machinery, to W. P. Bartley & Co., for the sum of $8,750. She was launched on the 5th May, or a few days after the water was let into the canal, when she was handed over to Messrs. Bartley, to complete their contract for the machinery, which was on or about the 1st June. We had some small details to attend to ourselves, in the shipping of her arms, anchors, &c., and she finally commenced work on the 24th June, when she worked steadily up to the close of the navigation.

This dredge has been provided with all the most modern improvements, and everything about her first class. In addition to the items before mentioned, we paid Delisle Bros. and McGill for chains, of which they are all "Wood's Patent Crane" chain, $492.22; the Moisic Iron Company, for heavy forgings in the arms, bale, teeth, &c., $527.95; and $264 to A. Cantin, for timber for anchors, or a total of $17,859.

Mr. Lefebre further received a sum of $4,788 for the construction of three deck scows in connection with this vessel. The details of the work done by this vessel, will be found described elsewhere.

New Spoon Dredges, Nos. 6 and 7.—The work done by our new and improved style of spoon dredge having proved so satisfactory, the Commissioners decided on constructing two more on the same system, to extend the works at Windmill Point; accordingly tenders were called for, and were finally awarded—the hulls to M. X. Lefebre, the machinery to W. P. Bartley & Co., while the former was awarded the contract for the six scows to work in connection with these dredges.

These contracts are now in an advanced state, and I have no reason to doubt but that they will be ready by the time mentioned in the contracts; while we ourselves have the two shovels and arms nearly completed as well as the anchors. We have spent ourselves up to date, about $2,141.00, of which Mr. Cantin received the sum of $754.21, for the timber required for the anchors; the Moisic Iron Company, $1,014, for the forgings of the arms, teeth, &c., while the balance was paid to Messrs. Mulholland and Baker for the iron for the shovels.

BUOYS AND BEACONS AND STEAMER "RICHELIEU."

The Trinity House of Montreal having been abolished, a portion of the duties which were formerly performed by that body were transferred to this Trust, and the duties again subdivided. I was directed to assume the superintendence of the buoys and beacons and steamer *Richelieu*, that is the placing of the buoys to mark the channel between Quebec and Montreal, and the steamer *Richelieu* to perform that duty. The superintendence of pilots was awarded to the Harbour Master, while the charge of the lights was assumed by Government, in charge of the Department of Marine and Fisheries. The buoys were *all placed* before the transfer was made last spring, so that my duties were comparatively light. The steamer *Richelieu* is commanded by Captain Naud, an old and experienced pilot, who attends to this business, and hitherto to my satisfaction. I caused to be placed several additional buoys in different places in the channel, sometimes at the suggestion of the pilot and some at my own.

The *Richelieu* came into our possession in September last, having been detained on account of her new upper works having been renewed by order of the late Trinity Board, and not completed for the reason that she was detained all winter at Three Rivers, while the contract for this work was at Sorel, by the Messrs. McCarthy. The year previous she had a complete overhauling in Montreal of her iron plates, at the cost of about $4,000. This year her joiner work cost a further sum of $4,000, almost making her a new boat.

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There yet remains the question of the engines and boilers. The former is what is known as "Parkyn's patent;" the boiler is pretty fair. I do not consider it would be good policy or economy to touch the engines at present; she does all that is required of her, though perhaps she might be considered a little slow; but her duties are light, at least one half of her time being spent tied up at the wharf.

In view, therefore, with the idea which I brought before the Board some time ago, of buoying the channel from end to end, and which was adopted by the ordering of the construction of four iron buoys, in course of a few years the services of the *Richelieu* could be dispensed with.

These buoys, which are now being constructed, are a great deal larger than those formerly in use, the former being four feet in diameter by nineteen feet in length, while the latter are only two feet by twelve; consequently the larger ones can be seen at a greater distance, which will be of great benefit to the pilots in thick weather.

We purchased for the use of this department this season, 134 tons of coal, at a cost of $871; while there remains at Sorel, about 75 tons yet. From the non-completion of this steamer, and the pressing nature of the work, I was obliged to secure the services of another steamer to overhaul a good many of the buoys, at a cost of $375, and when the *Richelieu* was completed, I found her so much by the head, that I had to place about fifteen tons of pig iron in her stern to trim her up. There yet remains the cabins in the hold to complete, and which I propose to commence in a day or two.

The total cost of this boat since she has been in our possession has been $3,301.06, of which $868 went for wages, the rest for fuel, &c., &c.

The water in the river has kept up pretty well this season, and no accidents from grounding of vessels in the artificial portion of the channel. The steamship *Precursor*, in charge of Hector Hamelin, a branch pilot, was run ashore on Isle Ronde, on the 30th June, and was only got off on the 6th August. This accident, it was evident, was caused by the want of power to stem the current, for as soon as she commenced to go backwards she was at the mercy of the current. The deep water at this place is at least 1,000 feet in width, so that no buoying or improvement would have saved her.

The steamship *Gamma*, on the 9th September, in charge of one Tupin, branch pilot, struck on the Pouillier Brambal, near Cape Charles, and consequently out of the channel; the only damage she sustained was the breaking of her propeller, and the necessitating her return to Quebec, to have same replaced; she was only drawing thirteen feet at the time.

The steamship *Ganges*, laden with coal, on her way up from Quebec, on the 16th September, in charge of the same branch pilot, struck this vessel at the turn of the buoy on the Grondines Shoal, when the vessel sunk at once. The improvements made at this place two years ago, consisted of a channel of about 800 feet in length by 250 feet in width. We had come up as far as within 200 feet of the end, with the full width of 300 feet, when we were obliged to leave off at the close of the season. While working there we had left a buoy to mark this spot, but it was not replaced the following year until after this accident.

On the 30th September, the steamship *Marmion* grounded at Varennes, but was got off next next morning; this was caused by thick weather coming on suddenly. The captain exonerated the pilot from all blame on that account, and, consequently, no complaint came before your Board.

On the 7th October, the steamship *Erl King*, while leaving the harbour, came into collision with the steamship *Cingalese*, who, at the time, was trying to come up to the harbour. Considerable damage was done to the latter. The pilot was tried, and he was deprived of his branch. The pilot Toupin was also deprived of his branch.

These accidents, although very serious in their nature, cannot be attributed to any peculiarity of our channel, as they all happened in the widest and deepest parts of the river; and serious as they are, are not so bad as when the *St. Patrick*, *France*, *Thames*, and *Cyclops* suffered so much last year.

Harbour Dredging.—The works in this department have been pretty much of the

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nature as usual, although our plant is increasing rapidly; but the whole of our fleet being almost new, the repairs are not of an extensive nature. Dredge No. 1 requires only some small repairs to her boiler; and when we recollect that this has been in use since 1832, it will not be surprising.

The buckets of this dredge require considerable repairs, but this will be done, as usual, by our own blacksmith.

Dredge No. 2 is in good order, as regards her hull and engine, and requires only the necessary cleaning up, painting, &c.

Dredge No. 3 is in good order, as regards her hull and engines also. As you are aware, Mr. Partelance, of Sorel, is engaged in making the necessary repairs to the buckets, links, &c., so that all that is required for the vessel is re-passing her seams, painting, &c.

Dredges Nos. 4 and 5 require nothing but the repairs to the teeth of the shovels, and the usual painting and caulking.

Steam derrick No. 1 will require a new boiler this season, the one in at present is about thirty years of age, and is now very thin, and is not considered safe for the pressure we are obliged to carry. I estimate the cost of such a boiler to be about $600.

Derrick No. 2 requires no repairs, as she is comparatively new, having been built two years ago.

The three steam-tugs *Delisle*, *Brown*, and *Minnie F. Parsons*, are in pretty fair order, the only repairs of any consequence is the *Brown*, which requires a new piston, and have the cylinder re-bored.

The stone-lifter barge *Hope*, chain-tug, and the sixteen scows, require very little repairs, with the exception of the usual spring ones; and I propose to commence, with the authority of the Board, these repairs on the 1st March. I will now give you a *resumé* of the work done in the harbour and elsewhere for the past year.

Dredge No. 1.—This vessel wintered in the Lachine Canal, and her repairs were completed on the opening of the navigation. She commenced work on the 10th May, on the shoal lying outside of the Bonsecours Pier, or opposite the Market Basin, and between this basin and the main channel. She worked here up to the 28th August, or a period of ninety-two days, removing 15,525 yards, at a cost of $8,448.36, or fifty-four cents per cubic yard. She was then moved to the outside of the Victoria Pier, to remove a small lump between this wharf and the main channel, where she worked up to the 30th October, a period of twenty-nine days, removing during that time 6,660 yards, at a cost of $2,663.07, or forty cents per yard. At this place she removed some very large boulders. She was then removed back to the same shoal at the Market Basin, working at it until the close of navigation, removing during that time (14 days) 1,665 yards, at a cost of $1,285.86, or seventy-seven cents per yard.

The total cost of this vessel, including the services of the tender, &c., amounts to $12,397.29. She removed during the season, a total of 23,850 yards, at an average cost of fifty-two cents per yard.

Dredge No. 2.—This vessel came out of the canal, where she had been wintered, and commenced work to complete the Market Basin on the 10th May, where she worked up to the 29th, or sixteen days. She removed during that time 3,480 yards, at a cost of $1,514.08, or an average of forty-three cents per yard. She was then removed to the shoal called the Hochelaga Shoal, abreast of the Hudon Cotton Mills, to procure material for backfilling of the wharves a little higher up, as well as to prepare the place here for the proposed piers. She worked here from the 2nd June up to the 19th November, 142 days, removing during that time 41,760 yards, at a cost of $13,437.09, or an average of thirty-two cents. The total work done by this vessel this season is therefore 45,240 yards, at a cost, including tenders, of $14,951.17, or an average of thirty-seven and a half cents. per yard.

Dredge No. 3.—This vessel wintered in Three Rivers, where she had unfortunately been overtaken by the sudden setting-in of winter, and was with difficulty brought up from Cap Charles by the steamer *Royal* of the St. Lawrence Tow-boat Company. The excessive charge of $4,000 made by this Company for this service has increased the expenses

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of this vessel by about thirty per cent. She commenced work at the Contrecoeur Channel on the 13th May, where she worked up to the 25th June, a period of thirty-five days, removing during that time 42,840 yards, at a cost of $5,079.80, or only twelve cents per yard. This Channel was supposed to have been completed, but from its narrowness (eighty feet), and of course under water, rendered it difficult to navigate it; they therefore require a slight straightening, and the removal of a small jutting point, but not in the excavated channel. The Department of Public Works requested an estimate to be made of this extra, which was furnished them, and this No. 3 was wintered in Sorel, so as to attend to this the first thing next spring.

On the 1st July, she was brought up to Montreal, where she worked up to the close of the season, the 15th November, at the shoal opposite the new Hochelaga Wharf. She worked here 120 days, removing during that time 18,510 yards, at a cost of $17,408.11, or a cost of ninety-one cents per yard.

Dredye No. 4.—This dredge commenced work this season, the 10th May, in the Market Basin, where she worked up to the 1st August, or sixty-eight days, removing during that time 16,299 yards, at a cost of $6,284.56, or an average of thirty-eight cents per yard; she was then moved down to the Commissioners' Wharf, to dredge out the foundation for the cribs for this wharf, also the basin formed here. She worked here the remainder of the season, or eighty-two days, removing during that time 25,887 yards, at a cost of $7,580.07, or an average of twenty-nine cents, forming a total of 42,186 yards removed, at a cost of $13,864.63, or an average of thirty-three cents per cubic yard.

Dredge No. 5.—This was the new dredge built last winter, and she commenced work on the 24th June, to excavate below the Longueuil Ferry Wharf, on the line of the new Hochelaga Wharf. She worked here until the close of the navigation, a period of 119 days, removing during that time 37,580 yards, at a cost of $8,557.86, or an average of twenty-three cents per yard.

I annex a tabular statement, whereby it can be seen at a glance the whole details of the work done by the different dredges.

Statement showing Quantity, Location, and Cost of Dredging, by the various Dredges in the Harbor of Montreal and elsewhere, for the season 1873.

Dredge No. 1, Working Expenses per day, $91.83; without Tender, $71.83.

Date.	Days worked	Scows filled.	Yds. per Scow.	Yds. dredged.	Yds. per day.	Cost	Total Cost.	Location.
						cts.	$ cts.	
May 10th to Aug. 28th....	92	345	45	15,525	169	54	8,448 36	Bonsecours Pier.
Aug. 28th to Oct. 30th	29	148	.....	6,660	230	40	2,663 07	Outside Victoria Pier.
Oct. 30th to Nov. 17th....	14	37	.....	1,665	120	77	1,285 86	Bonsecours Pier.
	135	530	.....	23,850	173	52	12,397 29	

Dredge No. 2, Working Expenses per day, $94.63; without Tender, $5.814.

May 10th to May 29th	16	.....	.....	3,480	218	43	1,514 08	Market Basin.
June 2nd to Nov. 19th.....	142	.....	.....	41,760	284	32	13,437 09	Hochelaga Shoal.
	158	.....	.....	45,240	287	37½	14,951 17	

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Dredge No. 3, Working Expenses per day, $145.08 ; without Tender, $121.38.

Date.	Days worked	Scows filled.	Yds. per Scow.	Yds. dredged.	Yds. per day.	Cost	Total Cost.	Location.
May 13th to June 25th	35	.....	.....	42,840	1,224	12	5,079 80	Contrecœur.
July 1st to Nov. 15th.....	120	.....	.....	18,410	154	91	17,408 11	Shoal outside Hochelaga Wharf.
	155	.....	.....	61,250	1,378	103	22,487 91	

Dredge No. 4, Working Expenses per day, $92.42 ; without Tender, $55.33.

May 10th to Aug. 1st.....	68	.....	.....	16,299	240	38	6,284 56	Market Basin.
Aug. 1st to Nov. 17th.....	82	.....	.....	25,887	316	29	7,580 07	Commissioners' Wharf.
	150	.....	.....	42,186	281	33	13,864 63	

Dredge No. 5, Working Expenses per day, $71.91 ; without Tender, $56.41.

June 24th to Nov. 17th....	119	.....	.....	37,580	315	23	8,557 86	Hochelaga Wharf.

It will be necessary to make some provision for a tender for dredge No. 1. Last year and the year before it was done by the Harbour Tow-boat Company ; this year at a cost of $2,700, and the year before of $1,400. The cost of our tugs has been respectively this year, for the *Delisle*, $5,507.00 ; the *Brown*, $5,562.20 ; and the *Parsons*, $5,763.97, without any allowance for wear or tear, so that if the Commissioners propose to purchase another tender, I can look after one, and report to you.

New Elevator Dredge.—It having been decided that a further prosecution of the improvements of the channel between Quebec and Montreal was necessary, and being without the necessary plant, the first thing to be done was to secure the same ; and it having been decided that the said works should be under the Harbour Commissioners, I was ordered to prepare the necessary plans, &c. After considerable care and enquiry, I found, and I am still convinced, that we possess as good and efficient a style of dredges as required for this particular work. I have made some changes in the details of the machinery, by simplifying the same, but the hulls and the principle of the working of the vessels remain the same.

On the 8th October, tenders were called for the construction of the hulls of six of these vessels, and the machinery for the 15th October.

The contract for the whole of the hulls was awarded to Messrs. Samson, Dickie and F. Soucy, of Quebec, for the sum of $91,782.00. The tenders for the machinery were not adopted at the time, as it was impossible to do so from the excessive amount asked. The contractors finding the work likely to slip out of their hands, asked permission to submit a second tender, when the contracts were awarded as follows :—W. P. Bartley & Co., two engines at $40,000 each ; E. E. Gilbert, two at $40,000 each ; John McDougall, one at $40,000 ; and the sixth to Messrs Atkin & Burgess, of Chicago, at the same price. All these contracts are now under way, and good progress is being made.

The contract for the fifteen scows was awarded to Mr. P. Letendre, of Yamaska, for the sum of $2,400 each.

The question of tenders for these vessels need not be decided at present, as I propose to recommend screw propellers, which can be had when required ready made.

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Suggestions for next Season.—Last summer one of our engineers, Mr. Wright, was sent up west to look after the most improved system of dredges, or any other improvement which might suggest itself to him. As you are aware, on his return he reported upon a clam-shell dipper which he had seen; upon the strength of this we purchased one from Mr. O. B. Green, of Chicago, at a cost of about $1,400. I am happy to inform you that it has been of immense benefit to us, and a great improvement on the old box system. I would therefore recommend the Trust to have two more constructed; they will cost about $900 each.

On account of the new spoon dredges to be employed on the new works, near Windmill Point, it will be necessary to have another steam derrick to attend to these. I need hardly remind the Commissioners that they will save sufficient in wages in one season over the old hand system as to pay itself in one season. The cost will be about $4,000, and I would recommend that tenders be called for same.

Some time last summer it was decided by the Commissioners on constructing a pier upwards from the Richelieu Pier, for the protection of the Quebec boats. As it was proposed at the time to construct it on the opening of navigation, it will be necessary that the plans be prepared at once and tenders called for. The cost will be about $4,000.

As to the disposition of the various dredges for next season, I would suggest as follows, namely:—Dredge No. 1; to remove the shoal outside of the Commissioners' Wharf; afterwards, when this is completed, to remove another near Hochelaga Wharf. Dredge No. 2 I would place on the Hochelaga Shoal, to procure back-filling for the Hochelaga Wharf as well as to prepare this place for future cribbing. She would be occupied here the whole season. Dredge No. 3 would proceed from Sorel to Contrecoeur, to complete the channel there, and when that is done to come up into the harbor, and work either at the widening of the channel opposite the Island Wharf, or abreast of Windmill Point works. No. 4 will have work for a good part of the season at Commissioners' Wharf, in excavating for the foundation of the cribs and providing back filling, while the same can be said of No. 5 Dredge, at Hochelaga Wharf.

It will be necessary to construct about 500 feet of crib work this summer at Windmill Point, but I will bring it before you later.

In reference to the chain tug, little remains to be said; it is now a regularly recognized institution. I enclose you the report of the Captain (Mr. Short), of the work done since she has been in commission. The whole cost of this vessel has been $25,000, while the running expenses are only about $16 per day, or less than one of the smallest of our tugs. I may mention that we have ordered 1,000 feet more of chain.

Submitting the whole for your consideration,

I have the honor to be, Sir,

Your most obedient Servant,

A. G. NISH,

Engineer, Harbour Commissioners.

H. H. Whitney, Esq.,
Secretary,
Harbour Commissioners of Montreal.

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REPORT OF THE CAPTAIN AND ENGINEER OF THE "CHAIN TUG.'

SIR,—I would most respectfully submit my report for the portion of the year between the fourth of July, when the "Chain Tug" began work, and the 29th November, when I left her in charge of the keeper in the Lachine Canal, opposite the St. Lawrence Engine Works. The report will be found to contain an account of the number of vessels towed by the "Chain Tug" during this time, their tonnage, draught of water, consignee, and the steamers by which they were towed; also the number of trips made when our services were not required; and at whose instance they were made, as well as the quantity of coals consumed, as near as can be ascertained, and an estimate of the running expenses for next season, and a tariff to cover the same, together with several suggestions which I deem necessary, for the proper working of the tug, during the coming season.

The accompanying schedule contains a correct account of the vessels towed during the time specified. By reference to it, it will be found that we have, during the last five months referred to, towed 55 sailing vessels, and 17 steamships, with a total tonnage of 45,582 tons, and also spent four days and one night in assisting the steamship *Precursor*.

SCHEDULE OF TOWAGE.

Date.	Names of Vessels.	Tonnage.	Draught of water.	Consignee.	Name of Tug.
1873.			ft. in.		
July 4..	Steamship Vicking	720	16 6	Lord Mayor & Munn...	Margaret.
" 9..	Ship County of Pictou	683	20 0	John Brodie.....	Champion.
" 11..	Steamship Broomhaugh.....	865	18 6	J. G. Sidey	William.
" 25..	do Precursor	.....	.....	.....	
" 26..	do do	.....	.....	.....	
" 27..	do do	.....	.....	.....	
" 28..	Ship Albion.....	979	17 6	H. & A. Allan	Rocket.
" 29..	do Latona...	1,031	19 0	J. W. Bucknal	Conqueror.
August 4..	Barque May Queen	285	13 0	Brown & McMinn	Hero.
" 4..	do Minnie Cameron....	436	16 0	Anderson McKenzie & Co	do
" 4..	Brig James Landles	137	11 0	Boyd & Arnton	Point Levi.
" 4..	Ship Lake Superior.....	1,274	18 0	Thompson, Murray & Co.	William.
" 5..	Steamship Precursor.....	.....	.....	.....	
" 6..	do do	.....	.....	.....	
" 7..	do Newfoundland ..	567	17 4	H. & A. Allan	
" 7..	Barque Valkyria	689	18 6	H. Dobell & Co.	Powerful.
" 7..	Ship Lake Ontario	1,060	17 6	Thompson, Murray & Co.	Ranger.
" 7..	Barque Stella Gazoto	441	11 3	Gionelli & Co.	St. Charles.
" 13..	Steamship Hibburn Hall....	846	18 2	J. G. Sidey	
" 15	Ship Pomona.....	1,195	18 8	H. & A. Allan	Meteor.
" 16..	Barque Surprise..... ..	437	14 10	C. Wilkie.....	Gatineau.
" 16..	Ship Janet Ferguson	581	16 0	Reford & Dillon.....	William.
" 18.	do Lake St. Clair.....	1,061	17 6	Thompson, Murray & Co.	Ranger.
" 18..	Steamship Robin Hood	514	17 0	Lord, Mayor & Munn..	
" 19..	do Gresham	1,161	18 6	J. G. Sidey	
" 19..	do Vicking	720	16 6	Lord Mayor & Munn...	
" 21..	Barque River Thames	501	15 3	John Hope & Co.....	Eclipse.
" 21..	do Alexandria	422	15 1	Anderson McKenzie & Co	Dauntless.
" 21..	do George Walker	414	16 6	John Brodie.....	Champion.
" 21..	Steamship Commodore.....	290	17 0	Lord Mayor & Munn...	Eclipse.
" 23..	Barque Albion	427	17 0	Brown & McMinn	Anglesea.
" 25..	Ship City of Montreal	1,186	13 2	H. & A. Allan	Rocket.
" 26...	Barque Cingalese	698	14 9	Brown & McMinn	Champion.
" 26..	do David Taylor.....	599	17 1	R. C. Adams.....	Ranger.
" 26..	do James Ives.....	533	18 0	Anderson & McKenzie..	do
" 27..	Steamship Quarta	731	15 8	J. G. Sidey	
" 27..	Barque Moselle	347	15 6	R. C. Adams.....	Dauntless.
" 27..	do Aurille	548	15 4	J. Redpath & Son	do
" 28..	do Mary Moor	565	13 0	W. M. Freer & Co....	Hero.
" 28..	do Louise Martiney....	540	17 0	R. C. Adams	do
" 28..	do George Esson.....	399	15 9	Anderson & McKenzie..	Contest.

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SCHEDULE OF TOWAGE.—*Continued.*

Date.	Names of Vessels.	Tonnage.	Draught of Water.	Consignee.	Name of Tug.
1873.			ft. in.		
Aug. 29..	Ship Eumeindes.....	1,111	15 0	H. & A. Allan.....	Meteor.
,, 30..	Barque Primus	261	11 0	Belinz & Lamotte.....	Beaver.
,, 31..	do Ingleborough	427	19 3	R. C. Adams.....	William.
Sept. 4..	do Guinissa.....	522	15 0	Thompson, Murray & Co.	Royal
,, 4..	Steamship Alice Otta.....	817	18 6	Coulthurst & Phie	
,, 5..	do Haji	659	17 8	O'Grady & Henbach ...	
,, 6..	Barque Heathpark	319	14 6	Brown & McMinn	Reindeer.
,, 8..	do Presto.....	621	17 6	R. C. Adams.....	Eclipse.
,, 11..	Steamship Claremont	668	17 3	J. G. Sidey	
,, 12..	Ship Margaret	965	13 6	J. W. Bucknal.....	Beaver.
,, 15..	Barque Pekin	648	14 6	J. W. Bucknal.....	Dauntless.
,, 15..	do Nova Scotian.....	733	9 9	Master.....	do
,, 16..	do Glenfalloch.....	449	16 10	Baird & Kinnear	Powerful.
,, 17..	do River Ganges..... ..	641	12 0	H. Chapman & Co.....	do
,, 18..	do Tigré.....	229	15 0	Gianelli & Co.	Ranger.
,, 22..	do Minnie	368	14 6	Gas Company	Hero.
,, 24..	do Horatian	336	15 3	Brown & McMinn	Champion.
,, 24..	do Annetta	408	15 0	R. C. Adams.....	Powerful.
,, 27..	do Smith Peterson...	450	17 0	J. G. Sidey	Eclipse.
,, 27..	Steamship Vicking	720	16 0	Lord Mayor & Munn...	
Oct. 1..	Ship Gleniffer.....	799	17 10	H. & A. Allan	Rocket.
,, 2..	Brig Hiawatha	280	13 0	G. G. Francis	Powerful.
,, 3..	Barque Varnak.....	549	16 0	Brown & McMinn	do
,, 8..	do Glenfruin.....	472	15 3	J. & R. McLea	Eclipse.
,, 9..	do Atlantic.....	467	17 0	J. W. Bucknal	Hero.
,, 10.	Ship Abeona	979	18 4	H. & A. Allan	Rocket.
,, 12..	Steamship Commodore	290	14 3	Lord Mayor & Munn...	Ranger.
,, 14..	do St. Andrew.....	671	11 0	J. G. Sidey	
,, 19..	Ship Lake Ontario	1,060	18 4	Thompson, Murray & Co.	Royal.
,, 19..	Barque Strathedon	408	11 5	Gillespie, Moffatt & Co..	Champion.
,, 21..	Ship Veruna	1,270	18 2	John Hope & Co.	Beaver.
,, 21..	do Cairngorm	1,016	19 3	H. & A. Allan	Rocket.
,, 21..	do Lake Erie	938	17 6	Thompson, Murray & Co.	St. Andrew.
,, 24..	Steamship Panther	238	14 0	Baird & Kinnear... ..	
,, 28..	Brig Rolling Wave	152	14 0	Lord Mayor & Munn...	Florence.
Nov. 1..	Steamship Haji	659	16 10	O'Grady & Heubach....	
		45,582			

Sailing Vessels, &c.	55
Steamships	17
Total.....	72

UNNECESSARY TRIPS.

Date.	At whose instance Made.
July 7	O'Grady and Heubach.
10	St. Lawrence Tow Boat Company.
11	Tug *Margaret.*
11	St. Lawrence Tow Boat Company.
12	do do
13	O'Grady and Heubach.
14	do do
16	J. G. Sidey.
19	St. Lawrence Tow Boat Company.
19	H. and A. Allan.
19	do
22	Steamship *Maharajah.*

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Date.		At whose instance Made.
Aug.	9	St. Lawrence Tow Boat Company.
	13	J. G. Sidey.
	15	do
	27	St. Lawrence Tow Boat Company.
Sept.	1	do do
	4	D. Shaw.
	4	Coulthurst and McPhie.
	10	Steamship *Ida.*
	22	St. Lawrence Tow Boat Company.
	26	do do
Oct.	7	Steamship *Cingalese.*
	11	St. Lawrence Tow Boat Company.

Number of trips when service was not required ..... 24.

COALS CONSUMED DURING PAST SEASON.

As near as could be ascertained, we took on board the following quantities of coal at the dates specified.

June	23	10	Tons.
July	11	4	„
	21	3	„
	29	10	„
Aug.	6	5	„
	15	6	„
	27	1½	„
Sept.	12	6	„
	17	2	„
	30	5	„
Oct.	21	8	„
	31	4	„
Nov.	5	3	„

In all 67½ tons, say at $5 per ton, $337.50.

The estimated cost of coal for five months, at the supposition that we tow twice as much during the ensuing season as in the last, and that we charge for every time the tug is kept in waiting for the convenience of agents or ship owners, no matter how small the charge may be, the agents will be more careful in giving us orders that our services will be wanted, and consequently we will remain for a much less time under steam, and a much smaller quantity of coal will be consumed. Taking all things into consideration, I think that we may safely estimate the quantity of coal to be consumed next year at one-third more than during the past, which would make the price of the quantity that would be consumed, $450.

STORES.

Our stores last year amounted to about $332, but it will be remembered that we had to fit up new, and we had to get several things, including a quantity of rope, which will serve again, and with the exception of a long hawser, we will require very little more than engine stores and paints, say to the amount of $100; with the new hawser, the stores would be about $250.

THE CREW.

I cannot give you the cost of the crew for last season, as I did not have the watchman on my time list, but for the coming season it may be as follows :—

Engineer and master, at $100 per month		$900
One watchman	45	405

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One mate	at $35 per month	.....	280
Two firemen	35	each	630
Two deck hands	30	.....	480
			$2,695

You will remember that the crew find themselves in board and lodgings.

Estimate of running expenses for the ensuing year.

Crew	$2,695
Coals	450
Stores	100
Total running expenses.....	$3,245

THE TARIFF.

By reference to the schedule, it will be found that we made about one hundred trips from the latter part of July, but as some of these went for nothing. we only succeeded in bringing up 45,582 tons. Considering the time we started, and the small number of ships and other vessels arriving, I think we would be safe in adding 100 per cent. as a basis whereon to form a tariff for the coming season. If so, we have 91,164 tons, say 3½ cents per ton, will amount to $3,190.74, which would nearly cover our running expenses, or taking twice the total number of trips, at $16 each, would come to about the same.

THE TUG.

The engines of the "Chain Tug" were completed on the 21st of June, 1873, and on that day we moved down to the harbor, and took our berth at the Victoria pier. It took some few days to complete the details connected with the chain, to weld up the latter and get it properly rove. These having been done, we successfully laid our chain, and towed up the first ship on the fourth of July, from this time our active career may be properly reckoned. It is needless to say that the *Tug* answers the purpose for which she was built, even better than any one expected. There were a few difficulties before getting the tug under proper working order, but they were not so serious as was anticipated, and I am happy to state they dwindled down to two, one of which was the slack of our chain getting foul of some rocks at the bottom of the river. This seriously impaired our efficiency for about three weeks, but is not likely to occur again, as we know how to avoid it. The other trouble is the tendency of the main bearings to heat while running. This is due to the great amount of friction caused by so many turns of the chain lapping both drums. Contrary to expectation, we find that the chain does not tend to slip on the drums, but is rather too tight, and that instead of nine turns of the chain, three or four would be sufficient. It has become necessary, from the effects of wear and tear, to replace the drums, in which case I fully approve of the proposal of Captain Wright, viz., to build each drum of separate sheaves, to be built in segments, so that any one of them could be replaced when necessary, without taking out the shaft or deranging the others. This would avoid a considerable expenditure of both time and money. As for the bearings, I would suggest that they be lengthened to at least one and a half time their diameter, and fitted with suitable brasses, with solid backing in the blocks. Brasses of this description generally work cooler than those of the skeleton back. I would also advise the fitting of our steam pump, so that it could pump water on the bearings in case of heating, and that the chain-box be altered so as to admit of either two or five turns of chain being used on the drums. The engine and boilers require nothing beyond the usual fitting up, and to have completed the ornamenting of the steam chest and pipes, which Mr. Gilbert began

TOWING.

A great deal has been said about the point from which we towed last season, and some persons suggested the propriety of anchoring out on the shoal above the Victoria

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pier. There are very serious objections to this position; it would bring the tug much more into the raft channel while towing, and also directly in the way of vessels, leaving the western or principal part of the harbour, and in case of meeting such vessels, we would be on the wrong side, thereby becoming liable for damages arising out of collisions. The anchor would also be placed where the natural course of the current would carry the tug to within the same distance of Monarque Street wharf, as last year; therefore, considering all things connected with it, and from my long experience in towing, I am fully satisfied that the tug was placed in the proper position at first.

Many pilots object to tow with us, unless when they have a tug employed between them and the "Chain Tug," as they say they cannot steer when towing close behind us. To remedy this, I would suggest the purchase of a hawser, of at least 125 fathoms long, so that we could allow them to tow at any distance they please. If this were done, and the shoals removed, as has already been hinted at by some of the Commissioners, I think the pilots would feel perfectly safe while towing with us.

I would also beg leave to remind you of your promise to add another thousand feet to our chain, which would enable us to take any tow from the foot of the current.

RAFTS.

During last season we experienced very great inconvenience from the passage of rafts down the current, having frequently been forced to wait with steam up for hours, for an opportunity to bring up a tow; notwithstanding our watchfulness, we, on one occasion, came in collision with three, one immediately after the other, and broke up one totally, and the other two partially. Fortunately there were no lives lost, although, how they on the first raft escaped I cannot understand. The tug sustained no damage whatever, but if the rafts had not been very slightly built, in my opinion the tug would have been sunk. There are many rafts, which it would be impossible for us to break up, and in case of getting one of these across our chain, it would certainly sink the tug. To prevent a repetition of such an occurrence and risk, I would most respectfully recommend that some arrangement should be made by which we would be warned by telegraph of their approach. In the absence of any such an arrangement, all we can do is to keep a sharp look out, and keep as much as possible out of their way. One of the greatest safeguards we have from the recurrence of such accidents, is the place from which we tow, which, in a measure, enables us to keep clear of their course, as far down as the Merchant's Wharf, while, if we were anchored out, we would be continually in their way, and it would be almost impossible to keep them from falling foul of us.

THE STEAMSHIP "PRECURSOR"—A TRIAL OF STRENGTH.

You doubtless remember that during the early part of last summer, while the steamship *Precursor* was unsuccessfully endeavouring to stem the current, she went ashore on Isle Ronde, in which position she lay for some time. Shortly after her grounding, the "Chain Tug" was got into operation, and the principal parties interested in getting off the steamer expressed a great desire to test the strength of the tug, as well as to avail themselves of the use of it.

They obtained your consent, and upon the same being communicated to me, I proceeded, with the assistance of the wreckers, to clear our chain, and relay it by the steamer. I had no faith in this trial, the steamer being yet too deep in the water, viz., 17 feet six inches by the stern, and nine feet forward, being held fast against some large rocks, by the tremendous current which ran against her. Notwithstanding this we stood by and assisted them two days and one night, when, having broken the strongest hawser it was possible for them to obtain, the parties decided to lighten the steamer. This being done, and they having procured a new 12½ inch hawser, made on purpose for us to pull with, we again went to their assistance. The steamer now drew 13 feet six inches aft, and seven feet six inches forward. We got the new hawser from the steamer, but it having been fastened too near midships, we broke it also. I pointed out the mistake to the wreckers, when they agreed that if I would go to their assistance on the following day,

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they would make fast to the steamer's head as I had at first desired. I acceded to their request, and succeeded in taking her off. This was considered such a herculean feat that the parties interested in the steamer thanked me cordially for the assistance given, and acknowledged the power and service of the tug through the press.

There were four of the St. Lawrence Tow Boat Company's boats also engaged, but they could not get into a proper position to be of use, and were rather a hindrance than an assistance to us. The underwriter's agent stated it to be his belief, that had it not been for the "Chain Tug," the steamship *Precursor* would have had ultimately to have been abandoned.

The whole very respectfully submitted.

I have the honor to be, Sir,
Your very obedient Servant,
(Signed) W. H. Short.

To A. G. Nish, Esq.,
Chief Engineer of the
Montreal Harbour Commissioners.

Montreal Harbour Office,
28th January, 1874.

Sir,—I have the honor to submit herewith, for the information of the Harbour Commissioners, the following as my annual report for the year 1873, with accompanying comparative statements, showing the dates of the opening and closing of navigation, of the first arrival from sea, and the departure of the last vessel for sea, number of vessels, tonnage, &c., for the past ten years, also a list of the classification of seagoing vessels, number and tonnage, &c., that have been in the port the past ten years, as well as a list of the number and tonnage of inland vessels that have been in port for the same number of years.

On the 1st January the river was frozen over and the ice stationary and firm, teams crossed from Longueuil to Hochelaga four days previous, and from St. Lambert's on the 3rd January, the water in the harbor was then eight feet nine inches above the summer level, and kept at that height, with but little deviation, during the winter months. On the 29th March it began to rise, and on the 17th April was at its highest point, 38½ feet on the lock sill of the Lachine Canal, and 21½ feet above the summer level; it was then three inches over the top of the Revetment wall, and about two feet over the floor of the basement of this building. On the 18th April the water began to fall, and on the 19th the basement was dry, and the water about 3½ feet from the top of the Revetment wall.

The first shove of ice took place on the 11th April, and continued to do so daily, until the 21st, when it finally gave way and moved down the river, leaving the channel, in front of the city, free from ice as far as Hochelaga, but leaving considerable quantities of ice upon the wharves in the harbour. The ice kept moving downwards and the water fell rapidly. On the 24th April the tops of the wharves were visible, and on the 25th the steamer *William* arrived in port from Sorel, where she wintered, and on the 26th eight schooners and three brigantines arrived in port from Boucherville, where they wintered. The market steamers arrived in port on the 28th April and left the following day, on their regular trips for the season. On the 2nd May the steamer *Montreal* arrived in port from Sorel and left the following day for Quebec.

The first vessels from sea arrived on the 4th May, six in number, viz., steamship *Prussian*, steamship *Peruvian*, ships *Pomona*, *Gleniffer*, *Glenbervie* and *Lake Superior*, the first five consigned to Messrs. H. & A. Allan, and the latter to Messrs. Thompson and Murray; from that date vessels from sea and elsewhere began to arrive, and the harbour kept steadily and well filled with vessels of all descriptions during the whole of the navigable season.

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In previous years the greatest number of vessels in port at one time was always in the spring and fall, but this year the greatest number was in midsummer. On the 28th August there was in port 84 seagoing vessels and 236 inland vessels, in all 320. To attend to the wants of every person connected with these vessels, and find suitable berths for them to transact their business, when the weather is very warm, is by no means an easy task.

Want of accommodation for those vessels engaged in the lumber and coal business, as well as the small inland vessels, bringing lumber, fire-wood, bricks, sand, &c., to market is much felt.

The lumber trade to South America is rapidly increasing, 72 vessels of the aggregate tonnage of 39,008 tons, carrying 32,251,758 feet of lumber, cleared at this port this season for the River Rio de la Plata; this business requires extensive wharf accommodation, as the lumber must be piled and dried before it is considered fit for shipment. Part of Windmill Point Wharf, part of Victoria Pier, part of Commissioners' Wharf, and the whole of the Hochelaga Wharf was occupied by parties engaged in that business, still they complained that they had not sufficient space to carry on their business in a satisfactory manner. If the whole of the lumber business was carried on at Hochelaga, it would greatly relieve the upper part of the harbour; the Windmill Point Wharf could then be altogether used as a coal wharf (which is much needed), and the Victoria Pier and Commissioners' Wharf used for general cargo vessels.

When the wharves now in course of construction at Hochelaga are completed, they will still be inadequate for the whole of the lumber business, I would therefore recommend that Mouton Island be applied for, and, if obtained, made available for that business; it is 2,000 feet long and 1,200 feet wide, with deep water at the lower end, where there is no current, and very little dredging required, to build a suitable wharf. With that, and the wharves at Hochelaga completed, there would be sufficient accommodation for that branch of business for some time to come.

All the basins in the harbour require a thorough cleaning out (excepting the Market Basin, which has been lately dredged), the bottoms of them are very uneven, and there is not 20 feet of water in any of them when the water is down to the summer level, frequently causing much trouble and delay, and consequently a great drawback to the trade of the port.

The Island Wharf requires to be raised on the south and east sides about three feet, to put it on a level with other parts of the wharf; in the spring, when the water is high, these parts are under water and consequently useless. The inside part of the same wharf is in a very dilapidated state, the earth is washing out into King's Basin, and vessels of ordinary draft cannot approach it nearer than from 15 to 18 feet, which causes extra labour in discharging and loading them. This wharf, when in good condition, is one of the best wharves in the harbour for general cargo vessels, as it has spacious top wharfage.

The "Chain Tug" came into the harbour on the 21st June, and did good service during the season; the pilots generally consider that the current carries her (the tug) too close to the north shore, therefore feel timid in making use of it. I am of opinion that when the chain is lengthened (as is intended) so as to permit her to drop lower down the river, and some plan adopted to bring her more to the centre of the channel when she has a vessel in tow (which I think can be accomplished), all prejudices and difficulties would then in a great measure be overcome.

The pilots, with few exceptions, are in a very disorganized state, and require a strict superintendent over them, who would compel them to be more attentive and comply with the rules and regulations that are established by law for their guidance. I would recommend that each one of them be compelled to report himself at the office on arrival in port, and at the same time to indicate his place of residence, and where to be found when wanted, and when any vessel was ready for sea to take his turn in rotation according to his time of arrival, let the vessel be small or great, excepting those that are specially appointed to ocean steamships.

I would again respectfully remark, that I find it impossible to attend properly, at all

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times, to the wants of all parties engaged in the trade of the port, both in the office and on the wharves, over so large an extent of harbour; but I shall continue as heretofore to use my utmost exertions to facilitate the business, as far as my health and strength will admit.

I have the honour to be, Sir,
Your obedient servant,

A. M. RUDOLF.
Harbour Master.

H. H. Whitney, Esq.,
Secretary,
Harbour Commissioners of Montreal.

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PORT OF MONTREAL.

CLASSIFICATION, Numbers and Tonnage of Sea-going Vessels that have been in the Port this last ten years.

	Steam-ships.	Tonnage.	Ships.	Tonnage.	Barques	Tonnage.	Brigs.	Tonnage.	Brigantines.	Tonnage.	Schooners.	Tonnage.	Total No of vessels.	Gross Tonnage.
1864	51	59,071	47	35,462	90	40,000	21	5,036	38	5,849	131	16,483	378	161,901
1865	63	78,015	33	26,086	56	24,789	13	3,139	35	4,943	158	15,971	358	152,943
1866	70	75,474	51	42,169	119	54,397	27	6,415	69	9,931	180	17,339	516	205,775
1867	106	87,199	55	47,463	81	39,883	18	3,757	64	9,273	140	11,478	464	199,053
1868	105	101,566	41	36,693	75	31,871	21	4,875	49	7,807	187	15,947	478	198,759
1869	117	117,965	66	64,484	103	45,710	18	4,735	49	9,243	204	17,726	557	259 863
1870	144	133,912	78	73,175	157	75,797	16	4,183	62	10,351	223	19,428	680	316,846
1871	142	146,927	99	92 502	170	82,363	26	6,539	47	7,839	180	15,551	664	351,721
1872	215	217,713	67	62,775	182	87,199	20	5,221	63	11,504	175	14,388	727	398,800
1873	242	245,237	72	65,823	164	75,594	18	4,660	59	8,581	147	12,583	702	412,478

PORT OF MONTREAL.

889 COMPARATIVE STATEMENT showing the dates of the Opening and Closing of Navigation, first arrival from Sea, and last Vessel for Sea, Number of Vessels, Tonnage, &c., for the last ten years.

	Opening of Navigation.	Close of Navigation.	First Vessel from Sea.	Last Vessel for Sea.	No. of Steam-ships.	Tonnage.	Vessels from lower Ports.	Tonnage.	Vessels to lower Ports.	Tonnage.	Total No. of Vessels.	Tonnage.	Greatest No. in Port at one time.
1864	April 13....	Dec. 11....	April 28....	Dec. 7....	51	59,071	75	9,039	90	8,628	378	161,901	32–June 23.
1865	,, 10....	,, 16....	May 3....	Nov. 24....	63	78,015	114	13,066	113	11,152	358	152,943	42–Oct. 19.
1866	,, 19....	,, 15....	,, 1....	,, 28....	70	75,474	172	21,930	173	19,044	516	205,775	91–June 13.
1867	,, 22....	,, 6....	,, 4 ...	,, 29....	106	87,199	190	29,561	159	22,813	464	199,053	59–Oct. 24.
1868	,, 17....	,, 9...	,, 4....	,, 27....	105	101,566	178	24,413	177	23,034	478	198,759	51–June 21.
1869	,, 25....	,, 6 ...	April 30....	,, 24....	117	117,965	222	37,648	198	27,177	557	259,863	61–Nov. 4.
1870	,, 18....	,, 18....	,, 22....	,, 27....	144	133,912	257	50,437	249	38,191	680	316,846	62–June 20.
1871	,, 8....	,, 1....	,, 22....	,, 29....	142	146,927	233	45,262	211	34,134	664	351,721	89–Oct. 27.
1872	May 1....	,, 8...	May 5....	,, 28....	215	217,713	296	77,640	220	47,227	727	398,800	84–Oct. 30.
1873	April 25....	Nov. 26....	,, 4....	,, 21 ...	242	245,237	273	96,748	233	53,270	702	412,478	84–Aug. 28.

HARBOUR OFFICE,
28th January, 1874.

A. W. RUDOLF,
Harbour Master.

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PORT OF MONTREAL.

COMPARATIVE STATEMENT showing the Number and Tonnage of Inland Vessels, and the greatest number that have been in Port at one time, for the past ten years.

Year.	No. of Vessels.	Tonnage.	Greatest number in Port at one time.
1864	4,509	420,694	220—September 6th.
1865	4,771	626,550	205—September 5th.
1866	5,083	613,679	240—October 14th.
1867	5,248	744,477	244—October 31st.
1868	5,622	746,927	297—June 22nd.
1869	5,866	721,324	259—November 5th.
1870	6,345	819,476	255—October 6th.
1871	6,878	824,787	281—October 6th.
1872	7,150	936,782	309—October 21st.
1873	6,751	933,462	296—June 8th.

A. M. RUDOLF,
Harbour Master.

HARBOUR OFFICE,
28th January, 1874.

HARBOUR COMMISSIONERS' OFFICE,
MONTREAL, 21st February, 1874.

SIR,—I have the honour to enclose herewith, for the information of the Honourable the Minister of Marine and Fisheries, statements of receipts and expenditure of the "Decayed Pilot Fund," since the same came into my possession in July last.

You are aware that, by the Act of the last Session of the Dominion Parliament, 36 Vic., cap. 61, this fund became the property in trust of the Harbour Commissioners of Montreal, and is made up from the earnings of the Pilots, who contribute five per cent. from their receipts for the purpose of creating this fund, from which, when they become old and infirm and no longer able to perform their duties, a pension is provided for them, or, in case of death, for their families.

I think it advisable in this, my first report, to put on record the circumstances which took place in connection with the handing over of this fund to me by the late Treasurer.

By the 3rd clause of the Act above referred to, the first day of July is named as the day when these securities should be transferred to the proper officers of the Harbour Commissioners.

This was not done, although I frequently asked the late Treasurer to do so. Seeing that the matter was delayed from day to day, I obtained authority from the Harbour Commissioners, on the 19th of July last, to make an official demand for the transfer of this fund, naming the following Wednesday for receiving the same; on that day Mr. David called upon me and asked for a further delay of one day, which I granted. On

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the following day that gentleman communicated with me through his solicitor, who handed me a tin box and two books, accompanied by the remark "that this was all." On opening the box I found that it contained the following securities, viz :—

Montreal Water Works Bonds	$2,000 00
„ Harbour Bonds	1,200 00
Government Debentures	1,000 00
Dominion Stock	1,620 00
Cash (cheque on Savings Bank)	433 12
Total	$6,253 12

On comparing the above statement with that made by the late Treasurer and published on page 16 of your last Report to Parliament, you will notice a large deficiency in the securities of this trust fund, as the following statements will show, viz. :—

	Statement on Page 16.	Securities delivered as above.	Deficiency.
Montreal City Bonds	$1,000 00	None	$1,000 00
" Water Works Bonds	7,800 00	$2,000 00	5,800 00
" Harbour Bonds	3,200 00	1,200 00	2,000 00
Government Debentures	4,800 00	1,000 00	3,800 00
Dominion Stock	1,620 00	1,620 00	
Cash in Treasurer's hands	644 53	433 12	211 41
Total	$19,064 53	$6,253 12	$12,811 41

In a letter received from you, bearing date 11th September 1873, you requested me to inform you whether, upon an examination of the books of the late Registrar, I had discovered any further deficiency from non-payments of interest or other causes. In my reply of 17th September last, I stated that after a close examination of the books I had found a further deficiency from the non-entry in the cash book from 1862 to the close of 1873 of interest and dividends, a further sum of $2,049 34

And that his receipts and cash on hand during the current year up to the time the transfer was made to me, amounted to	$1,198 75	
And payments during the same period	598 00	
	600 75	
Less cash handed me	433 12	
		167 63
Deficiency		$2,216 97

In a subsequent letter I had the honour of addressing you on the 13th December last, I stated that I had made a further examination of the books of the late Treasurer of the Trinity House, with a view of ascertaining whether all the monies collected at the Custom House for the "Decayed Pilot Fund" had been accounted for.

On comparing the receipts given by the late Treasurer to the Collector of Customs, I found the following sums received by him not credited in his cash book, viz. :—

19th November, 1862	$189 90
19th December, 1863	3 00
30th December, 1865	8 64
30th November, 1866	140 51
„ 1869	205 44
„ 1871	268 48
„ 1872	373 49
Deficiency	$1,189 46

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By the above statement you will notice that the fund was deficient to the extent of $16,217.84, nearly three-fourths of the hard savings of these poor pilots during the last twenty years; and I may state that it is a source of great anxiety to them. Scarcely a day passes that I am not called upon by some of them enquiring what is to be done?

I may mention, in conclusion, that the funds in hand have enabled me to pay all pensions, but that no additions have since been made to the list, and that, under such circumstances, it was impossible, in any case, to make any addition to the very small sums allowed.

The Commissioners are informed that there is presently before the Government a petition from the pilots praying that the defalcations of the late Treasurer may be made good to them. As the Commisioners believe that this alternative cannot equitably be avoided, they desire me to express their hope that this deficiency may be made good.

I have the honour to be, Sir,

Your most obedient servant,

H. H. WHITNEY,
Treasurer.

Wm. Smith, Esq.,
Deputy of Minister of Marine and Fisheries,
Ottawa.

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DR. H. H. Whitney, Treasurer, in account with the Decayed Pilot Fund. CR.

1873.		$ cts.
July 24.	To Balance, being the amount paid over by the late Treasurer, E. D. David	433 12
do 31.	Received from Collector of Customs, poundage for July	244 49
Aug. 6.	6 months' int. on £300, harbor bonds, 5 %, due 5th July	30 00
do 23.	Received from Buchanan, Leckie & Co., poundage on pilotage from Quebec to Sorel and Sorel to Quebec	1 54
do 27.	Received from U. Groleau, poundage Steam Yacht *Fls. Witherbee*	0 68
do 30.	Received from Collector of Customs, poundage for August	345 68
Sept. 16.	Received from Mitchell & Co., poundage Steamship *Southern*	1 81
do 30.	Received from Collector of Customs, poundage for September	276 83
Oct. 17.	Received 6 months' int. on $1,620, Dominion stock, due 1st inst.	48 60
do 31.	Received from Collector of Customs, poundage for October	304 01
Nov. 5.	Received 6 months' interest on corporation bond, £500, due 1 inst.	60 00
do 11.	Received 6 months' interest on Province of Canada bond, £250, due 1st inst	30 00
do 12.	Received from Celestin Brunet, poundage, Steamer *Mattawa*	2 62
do 29.	Received from Collector of Customs, poundage for November	261 62
Dec. 5.	Received from Z. Bouillie, poundage on his salary, Steamer *Rocket*, for 1873	35 00
do 31.	Received 6 months' interest on deposit account with City and District Savings Bank	19 58
		2,095 58

1873.				$ cts.
Aug. 1.	By Paid Widow O. Abelle, 3 mos.' pension to 1st Aug., 1873			9 00
do 1.	do Boudreau	do	do	12 00
do 1.	do Pagé	do	do	9 00
do 1.	do Dubord	do	do	12 00
do 2.	do Lacoursiere	do	do	6 00
do 2.	do Lemai	do	do	12 00
do 5.	do C. Hamelin	do	do	15 00
do 5.	Paid Oliver Remond	do	do	15 00
do 9.	Paid Widow Bouez	do	do	15 00
do 11.	do Beaudry	do	do	12 00
do 11.	do D. Bouillie	do	do	15 00
do 11.	do N. Bouillie	do	do	15 00
do 11.	do Belisle	do	do	15 00
do 11.	Paid Joseph Mathieu	do	do	9 00
do 11.	Alexander Trottier	do	do	15 00
do 11.	François Dolbec	do	do	15 00
do 11.	Paid Widow Belcourt	do	do	15 00
do 12.	do F. Hamelin	do	do	15 00
do 16.	do Mathon, 6 months' pension	do		18 00
Oct. 3.	Paid Heirs C. Hamelin, pension from 1st May to 4th August, date of decease			16 00
Nov. 1.	Paid Widow Lacoursiere, 3 months' pension to 1st inst.			6 00
do 1.	do Abelle	do	do	9 00
do 1.	do Pagé	do	do	9 00
do 3.	do Dubord	do	do	12 00
do 3.	do Lemai	do	do	12 00
do 3.	do Boudreau	do	do	12 00
do 3.	Paid Olivier Boudreau, 6 months' pension		do	30 00
do 5.	Paid Widow D. Bouillie, 3 months' pension		do	15 00
do 5.	do N. Bouillie	do	do	15 00
do 5.	do Belisle	do	do	15 00
do 5.	do Beaudry	do	do	12 09
do 5.	do Belcourt	do	do	15 00
do 5.	Paid Alexander Trottier	do	do	15 00
do 5.	Joseph Mathieu	do	do	9 00
do 6.	François Dolbec	do	do	15 00
do 8.	Paid Widow Mathon	do	do	9 00
do 8.	do F. Hamelin	do	do	15 00
do 10.	Paid Olivier Remond	do	do	15 00
do 13.	Widow Bouez	do	do	15 00
do 15.	Edouard Boudreau, 6 months' pension		do	30 00
do 25.	Heirs Widow C. Hamelin, 2 months and 21 days' pension to 21st October, date of decease			13 33
Dec. 31.	Balance			1,532 25
				2,095 58

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H. H. Whitney, Treasurer, in account with the Decayed Pilot Fund.—*Concluded.*

STATEMENT OF FUNDS.

	$ cts.	$ cts.
Montreal Harbor Bonds		1,200 00
Province of Canada Bonds		1,000 00
Montreal Water Works Bonds		2,000 00
Dominion Stock		1,620 00
Cash deposited in C. & D. Savings Bank	1,486 81	
Cash in Treasurer's hands	45 44	
		1,532 25
		7,352 25

MONTREAL,
31st December, 1873.

H. H. WHITNEY,
Treasurer.

I hereby certify that I have examined the statement of receipts and disbursements of the Treasurer of the Decayed Pilot Fund, from 1st July to 31st December, 1873; also, the securities mentioned above and cash on hand, all of which I find correct.

HUGH McLENNAN.

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APPENDIX No. 48.

REPORT OF THE HARBOUR MASTER AT THE LEDGE, PORT OF ST. STEPHEN'S, NEW BRUNSWICK, FROM THE 31st JULY, 1873, TO THE 31st DEC., 1873.

SIR,—I have the honour to report upon the number of vessels which arrived at the Ledge, Port of St. Stephen's, County of Charlotte, from 30th July, 1873, to 31st Dec., 1873, viz.:—

4 Ships over 400 tons, @ $4	$16 00
2 Schooners over 200 tons, @ $2	4 00
8 Schooners over 100 tons, @ $1	8 00
	$28 00

No fines collected.

ABSALOM KELSO CHRISTIE,
Harbour Master.

Absalom Kelso Christie personally came and appeared before me, one of Her Majesty's Justices of the Peace in and for the County of Charlotte, and made oath that the above report is just and correct.

PETER M. ABBOT, J.P.

Dated at St. Stephen's, this 17th February, 1874.

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APPENDIX No. 49.

REPORT OF THE HARBOUR MASTER FOR THE PORT OF ST. GEORGE NEW BRUNSWICK, SINCE HIS APPOINTMENT, 13TH AUG. 1873.

ST. GEORGE, N. B., Feb. 21st. 1874.

SIR,—I am in receipt of your letter of the 10th inst., which requests me to forward Annual Report of harbour dues collected by me since my appointment, to Dec. 31, 1873, and in reply I beg leave to forward the report required.

I have the honour to be,
Your obedient servant,
JAMES DICK.

William Smith, Esq.,
Deputy of Minister of Marine and Fisheries,
Ottawa.

RETURN of Vessels arriving at the Port of St. George, from which Harbour dues have been collected by James Dick, Harbour Master, from 13th August, 1873, to December 31st, 1873.

Date of Arrival.	Vessels.	Master.	Register Tonnage.	Dues Collected.
1873.				$ cts.
Aug. 13	Bark, Malta	Malcolmson	536	4 00
" 15	Aletta	Nasstron	499	4 00
	Alf	Wroldsen	506	4 00
Aug. 17	Folkbaug	Ebbell	298	2 00
" 18	Ben Bolt	Drake	99	1 00
" 22	Wilhelm Foss	Thorsen	361	3 00
" 26	Vesta	Tellfsen	277	2 00
" 27	Hombersund	Neillsen	408	4 00
	Hues	Royen	263	2 00
	Embla	Andraeson	370	3 00
" 28	Madeira	Douglass	115	1 00
Oct. 14	Aurora	Morgensten	312	3 00
" 23	Sarah Glass	Glass	85	1 00
Nov. 1	Harrie	McQupid	91	1 00
	Mary Ellen	Britt	115	1 00
	Julia Clinch	Maloney	123	1 00
Nov. 4	Susie Prescott	S. C. Young	99	1 00
	Wm. Lancaster	Seelye	94	1 00
Nov. 5	Jane	Clarke	98	1 00
" 11	Madeira	Douglass	115	1 00
" 14	W. R. Barry	Sherrard	141	1 00
" 25	Tornado	McKenzie	105	1 00
	Nulatto	Small	130	1 00
				44 00

JAMES DICK,
Harbour Master.

ST. GEORGE, NEW BRUNSWICK,
December 31st, 1873.

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APPENDIX No. 50.

ACCOUNT of the sums received by Benjamin Beatty, Harbour Master at the Port of Welshpool, Campobello, during the half-year ended 31st December, 1873, from his appointment 1st July, 1873.

Date.	Vessel's Name.	Tonnage.	Amount Received
1873.			$ cts.
Nov. 24	Bill	52	0 90
,, 25	Albert	55	0 90
,, 27	Piscataqua	65	0 90
,, 29	Highflyer	55	0 90
Dec. 1	Christie Campbell	65	0 90
,, 6	Madawaska Maid	63	0 90
,, 6	Edward Everett	58	0 90
,, 8	Falcon	71	0 90
,, 8	Alice M. Lewis	67	0 90
	Glenwood	62	0 90
Dec. 22	Martha and Mary	62	0 90
,, 23	Maggie	68	0 90
,, 23	A. W. Dodd	45	0 90
		778	11 70

BENJAMIN BEATTY,
Harbour Master.

CAMPOBELLO,
18th February, 1874.

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APPENDIX No. 51.

REPORT OF THE HARBOUR MASTER FOR THE PORT OF CHATHAM, NEW BRUNSWICK, FOR THE YEAR ENDED 31ST DEC., 1873.

PORT OF CHATHAM, N. B.,
23rd February, 1874.

SIR,—I have the honour to report that since my appointment as Harbour Master for the Port of Chatham in the month of July last, I have discharged the duties attached to the office under the regulations of Sessions of the County of Northumberland. I have attended to the mooring of vessels, the preventing of injury to the harbour from any cause, and the other duties required of me by the said regulations. I have not required to prosecute any person for fines for any infringement of those regulations. The amount of fees collected by me during that period is one hundred and eighty-one dollars. I am informed that my predecessor, Mr John Harley, collected from the beginning of the year up to the time of my appointment seventy seven dollars, making in all two hundred and fifty-eight dollars collected during the year.

I have the honour to be, Sir,
Your obedient servant,

WILLIAM JOHNSTON,
Harbour Master.

Hon. Albert J. Smith,
Minister of Marine and Fisheries,
Ottawa.

The above named William Johnston appeared before me this twenty-third day of February, and made oath that the matters stated by him in the foregoing report are correct and true.

Sworn to at Chatham, N. B., this twenty-third day of February, A.D. 1874, before

G. A. BLAIR, J.P.

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APPENDIX No. 52.

REPORT OF THE HARBOUR MASTER FOR THE PORT OF NEWCASTLE, NEW BRUNSWICK, FROM 7TH JULY TO 31ST DEC., 1873.

NEWCASTLE, MIRAMICHI, N. B.,
17th Feb., 1874.

SIR,—In accordance with the 3rd Section of the Act 36 Vict., cap. 9, I beg to make the following statement. My appointment as Harbour Master for the Port of Newcastle dated the 7th of July, 1873.

The sum I have collected for all vessels subject to pay harbour dues amounts to fifty-eight dollars. Of course the spring fleet had left before my appointment, which makes the amount small; but another thing is, that principally all the shippers reside in Chatham, and of course all the ships pay their dues when they enter, but a great many of these vessels take in cargo from mills in the Port of Newcastle, which port extends about eight miles in length. My first letter from your Department told me to act under old regulations, which I have done; and I consider that they cover everything for the protection of the harbour. I have taken the liberty of enclosing a copy of them for your consideration.

The dues under the old regulations were one dollar for all vessels over fifty tons, and over two hundred tons two dollars, and that was the highest I collected from any vessel this season.

J. NIVEN,
Harbour Master for the Port of Newcastle, N. B.

Hon. A. J. Smith,
Minister of Marine and Fisheries,
Ottawa.

Sworn before me this the seventeenth day of February, 1874.

F. K. FRASER, J.P.

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APPENDIX No. 53.

REPORT OF THE HARBOUR MASTER FOR THE PORT OF BATHURST FOR THE YEAR ENDED 31ST DEC., 1873.

BATHURST, 18th February, 1874.

Sir,—I have the honor to annex a statement of fees collected by me for the year ended 31st December. When I received notice of my appointment from the late Minister of Marine, &c., he instructed me to collect the fees for the remainder of the season under old regulations, consequently I cannot give you details of registry, tonnage, &c. The vessels from which I collected fees are all 60 tons and upwards. Under the new law there would be from 30 to 40 more small vessels, say from 60 to 25 tons. The average of vessels from 200 to 1,200 tons yearly at this port is from 12 to 14; last year shows the smallest number for twenty-five years, owing I believe to the high rates of freight. Ships ask from $1.50 to $2.00 per standard more from Bathurst than from Miramichi, owing to the difficulties in loading outside the harbour and extra port charges. They have to pay 10 cents per ton, which the law requires to be collected for the improvement of the harbour.

I have, &c.,

GEORGE SMITH,
Harbour Master.

Hon. A. J. Smith,
Minister of Marine and Fisheries,
Ottawa.

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STATEMENT of Fees collected by George Smith, Harbour Master at the port of Bathurst, for the year ended the 31st December, 1873.

St. Anne	Schooner			$1 00
Marie Louise	„			1 00
Almanda	„			1 00
Temperance, (not collected)	„		$1 00	0 00
Admiration	„			1 00
Carcaud	„			1 00
Hector Langevin	„			1 00
C. J. Brydges	„			1 00
Progress	„			1 00
P. L. Newcomb, (over 100 tons)	„			2 00
Marie Luce	„			1 00
Lady Belleau	„			1 00
Four Brothers	„			1 00
Maggie H. (2 trips)	„			2 00
Dolphin	„			1 00
Pasjebiac	„			1 00
Tickler	„			1 00
Fly	„			1 00
Northern Chief	„			1 00
Star of the Sea	„			1 00
Regent	Square Rigged			2 00
Anna	„			2 00
Annie Gray	„			2 00
Emanuel	„			2 00
Elfrida	„			2 00
Hibernia	„			2 00
Rothsay Castle (4 trips)	Steamer			8 00
Beaver (not collected, 2 trips)	„		4 00	0 00
Not collected			$5 00	$41 00

GEORGE SMITH,
Harbour Master, Port of Bathurst.

BATHURST, February, 1874.

Sworn to before me this 19th day of February, A.D. 1874.

JOHN KERR, J. P.

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APPENDIX No. 54.

REPORT OF THE HARBOUR MASTER FOR THE PORT OF BUCTOUCHE, FROM THE 7TH OF AUGUST TO 31ST DECEMBER, 1873.

BUCTOUCHE, 23rd February, 1874.

SIR,—I have the honour to report that the following named vessels entered the port of Buctouche since my appointment as Harbour Master, and paid the undernoted fees:—

Barque Nora, 344 tons	$2 00
„ Flora, 432 „	3 00
Brigantine Favourite, 198 tons	1 00
„ Fred, 282 tons	2 00
„ Elfa, 227 tons	2 00
Barque Brudablk, 341 tons	2 00
	$12 00

I have, &c.,

W. E. DIXON,
Harbour Master.

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APPENDIX No. 55.

STATEMENT of Harbour Dues collected at the Port of Dalhousie, New Brunswick, from 9th August to 31st December, 1873.

1873.	Vessels' Names.	Masters.	Tonnage.	Fees Collected.
				$ cts.
Aug. 19	Almanda	Lemieux	98	1 00
" 19	Ida E	Watt	70	1 00
	M. J. Wilber	O'Leary	350	2 00
Sept. 2	Annabella	Craig	844	2 00
" 10	Ellida	O. C. Larcen	345	2 00
" 15	Clyde	J. R. Sinter	701	2 00
" 16	Norma	R. H. Lightbody	608	2 00
" 25	Mersey	M. Suter	580	2 00
" 25	William Yeo	C. Homes	786	2 00
" 29	Neptune	J. H. Edwards	533	2 00
" 29	Iva	Degrass	60	1 00
Oct. 2	George	S. McGregor	228	2 00
	Lady Havelock	A. Wood	855	2 00
	St. Michael	J. M. Bond	459	2 00
Oct. 6	Faucette	A. Duff	218	2 00
" 18	Newlen	J. B. Masson	81	1 00
	M. Louise	G. Jancas	81	1 00
" 24	Ida E.	Watt	70	1 00
Nov. 27	B. Edelane	Sire	89	1 00
				31 00

J. W. CULLEN,
Harbour Master.

DALHOUSIE, N. B.

Sworn to before me, this 9th day of March, 1874,

DAVID SADLER, J. P.

APPENDIX No. 56.

RETURN OF FEES COLLECTED AT THE SHIPPING OFFICE, LIVERPOOL, FROM JULY 8TH, TO DECEMBER 31ST, 1873.

363 Men Shipped @ 50 cents	$181 50
301 Men Discharged @ 30 cents	90 30
	$271 80

W. A. KENNEY,
Shipping Master.

E. & O. E.

LIVERPOOL, N. S., January 1st, 1874.

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APPENDIX No. 57.

REPORT OF THE SHIPPING MASTER FOR THE PORT OF LUNENBURG, N. S., FROM 22ND OCTOBER TO 31ST DECEMBER, 1873.

LUNENBURG, N.S., 20th February, 1873.

SIR,—I have the honour to send herewith a return of crews shipped and fees received at the Port of Lunenburg, from the date of my appointment as Shipping Master, to 31st December last. What I have given is a proportion of the number of vessels that sailed from and arrived at this port. The reason assigned for not returning a full report, is in consequence of difficulties and obstacles that arose from the ship owners not properly recognising the system at the outset.

I have, &c.,

WILLIAM YOUNG,
Shipping Master.

RETURNS of Crews Shipped and Fees received at the Port of Lunenburg, to December 31st, 1873.

Date.	Name of Vessel Outward.	No of Men.	Fees Received.	Date.	Name of Vessel Inwards.	No. of Men.	Fees Received.
			$ cts.				$ cts.
Nov. 4.....	Chillion	6	3 00	Nov. 3.....	C. W. Anderson....	5	1 50
„ 13.....	C. W. Anderson....	5	2 50	„ 11.....	Cygnet	5	1 50
„ 29.....	Mary Young.....	5	2 50	„ 18.....	Wellington	5	1 50
Dec. 8.....	C. Graham	4	2 00	„ 21.....	C. Graham	4	1 20
„ 15.....	Wellington	5	2 50	„ 22.....	Alpha	6	1 80
„ 15.....	Druid	5	2 50	„ 8.....	Druid	5	1 50
„ 15.....	Edith	6	3 00	„ 15.....	Edith.....	6	1 80
„ 15.....	Elbe.....	6	3 00	„ 23.....	Chillion	6	1 80
				„ 24.....	Elbe.....	6	1 80
			21 00				14 40

WM. YOUNG,
Shipping Master.

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APPENDIX No. 58

REPORT OF THE COMMISSIONERS OF THE HARBOUR OF PICTOU, FOR THE YEAR ENDED 31st DECEMBER, 1873.

PICTOU, N.S., 27TH FEBRUARY, 1874.

SIR,—The Commissioners of the Harbour of Pictou beg to transmit the enclosed attested account of their receipts and expenditure for the year 1873.

They have to report that they have entered a suit against the former Commissioner of the Public Wharf for about three hundred dollars in his hands which he refuses to pay over.

They have also to report that they contemplate expending the balance of moneys in their hands in extending and repairing the public wharf during the incoming spring.

The Commissioners ask the consent of the Minister to expend part of the proceeds of this current year's tonnage dues in building a ballast wharf, such accommodation being required for vessels entering the port in ballast.

We have the honor to be, Sir,
Your most obedient servants,

WM. G. CRERAR,
R. P. GRANT,
Commissioners of the Harbour of Pictou.

To the Honorable
The Minister of Marine and Fisheries.

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ACCOUNT of Money received and expended by the Commissioners of the Harbour of Pictou and the Public Wharf thereat, for the year 1873.

Moneys Received.	$ cts.	Moneys Expended.	$ cts.
Cash deposited in Bank of Nova Scotia by former Commissioner of Wharf	1,601 00	Paid off Mortgage on public wharf property with interest and deed or release	1,873 80
Cash from Collector of Customs for proceeds of tonnage dues	1,658 43	Paid recording the same	1 40
Cash from Wharfinger of Public Wharf, being proceeds of wharfage dues	796 49	Paid for Printing Harbour Regulations	11 00
		Paid for Plan and Specification for repair of wharf	3 00
		Paid for Labour on public wharf	98 43
		Paid Wharfinger's salary, 1873	200 00
		Commission on $2,187 73 expended at 5 per cent	109 38
		Balance	1,758 81
	4,055 92		4,055 92
Balance in hands of Commissioners	1,758 81		

WM. G. CRERAR,
R. P. GRANT,
Commissioners.

Sworn before me at Pictou, this 27th day of February, 1874.
JOHN CRERAR, J. P.

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APPENDIX No. 59.

REPORT OF THE WARDENS OF THE MARINE AND IMMIGRANT HOSPITAL, QUEBEC, FOR THE YEAR ENDED 31st DECEMBER, 1873.

QUEBEC, 18th March, 1874.

SIR,—The Wardens of the Quebec Marine and Immigrant Hospital have the honour to submit the following annual report :—

The expenditure incurred for the maintenance of the hospital during the year 1873, amounted to $19,768.13, out of which sum $15,511.38 are chargeable to the Dominion Government, and the balance—$4,256.75 was met as follows :—

By grant from the Province of Quebec	$4,000 00
Rent of beach	120 00
Board of House Surgeon	60 00
" Matron's son	30 00
" Patients	38 75
Sale of ashes	8 00
	$4,256 75

The foregoing statement supplies all the information needed regarding the details of expenditure.

The House Surgeon's Report on the admissions, discharges and deaths during the year 1873, may be summed up thus :—

Number of patients in the hospital on 31st Dec., 1872	30	
" admissions	858	
		888
" discharges	794	
" deaths	38	
" patients remaining in the hospital on 31st of Dec., 1873	56	
		888
Whole length of stay	15,739	days.
Average length of stay	17·72	"
Average daily number of patients	43	
Percentage of deaths	4·3	

A comparison of these figures with those of last year shows that, if mortality has not decreased, the average length of stay was in 1873 much shorter than formerly, from which it may be concluded that the hospital's hygien is, to say the least, just as good as in years past.

The expenditure on account of several of the most important items, such as salaries, heating and lighting, cannot much vary, let the number of patients be what it may; some others, like the grants to chaplains, for placing children, insurance premiums, water tax, must necessarily remain the same. With these exceptions, the decrease in expenditure has been, at least, in proportion with the number of patients admitted in the hospital.

The wardens have placed the expenditure on account of heating and water tax amongst fixed expenses, but as the expenses for these items were larger this year than last, some explanations may not be out of place. Having noticed the inconvenience resulting from not purchasing before winter time all the fuel required to 30th June, the wardens determined to buy at least 50 cords of wood more than usual. The Corporation of Quebec had a claim against the hospital, which the wardens could settle advan-

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tageously only this year; the water tax has, besides, been raised since 1st May last, from $4 to $6 per annum.

Amongst the receipts is an item, upon which the wardens deem it also necessary to offer some explanations. On the 31st December, 1872, they had to meet a deficit, which threatened to increase yearly; they were, therefore, compelled to limit as much as possible the number of admissions other than those of sailors and immigrants; as, without adding anything to the sum at their disposal for the maintenance of the hospital during the year, these admissions still increased the expenditure considerably.

The whole humbly submitted.

P. Wells,
Secretary.

To the Honorable
Minister of Marine and Fisheries.

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APPENDIX No. 60.

REPORT ON THE LIGHT-SHIPS ON THE ST. LAWRENCE IN NOVEMBER.

AGENCY OF DEPARTMENT OF MARINE AND FISHERIES,
QUEBEC, 25th November, 1873.

SIR,—I have the honour to report the arrival of the steamer *Napoleon III.* at 11 a.m. yesterday, and beg to hand you synopsis of her movements.

Left Quebec on Friday morning the 21st instant for the Lower St. Lawrence, in accordance with your instruction as conveyed to me per telegram of the 19th instant, viz., "To attend to the safety of the light-ships before anything else," and that these orders might be carefully carried out, and further, that I might acquire a knowledge of the Lower St. Lawrence at this critical season of the year, I accompanied her.

Just as we were leaving Quebec a report reached me, that the captain of the Upper Traverse light-ship, with one of his crew, was lost. This naturally created increased anxiety for the safety of the others.

We passed through heavy fields of ice until below Crane Island, and found the Manicouagan light-ship at anchor in a small bay called "The Hospital," at Goose Island.

Having furnished the *Napoleon* with three large canoes, I despatched one of them with Joseph Le Bel, of the Quebec River Police, and a resident of that island, with two men to assist in beaching her in a safe position for the winter, as by the advice of Captains Marmen, Gourdeau, and Levesque, together with Captain Connell of the light-ship, this was the best and safest place for her to winter under existing circumstances.

We now proceeded to the "Traverse," and at the spot where the Upper Traverse light-ship should have been moored; we discovered the debris of a wreck, having all the appearance in color and shape of that vessel, in a sunken condition. We approached as near as possible to render any possible assistance, fully believing at the time that the whole of the crew had perished, more especially from the report current when we left Quebec. Not perceiving the Lower Traverse light-ship on her station, nor in its neighborhood, made all possible speed to find out what had become of her.

On the way down, observed the ship *Amoor* dismasted, and at anchor near the Horse-shoe, and also the Lower Traverse light-ship on the south shore of the Coudres Island. From her weak condition, and the state of the wind and tide, greatly feared she could not round the point and get into Eboulements, and it was therefore decided by the captains and all parties to run as near the *Amoor* as possible and take off her crew, then proceed to the light-ship to put her in safety, intending the next morning on our way out to Red Island to haul the *Amoor* off if possible. I sent a boat out for that purpose.

The pilot of the *Amoor* refused to leave her, and wished to be towed away into deep water. This was not considered advisable, as the vessel grounded when she was at low water, and if taken further out would have been constantly exposed to the action of the immense fields of ice which we knew would come down with the ebb, against which her anchors could not hold.

Night approaching left but very little time to get hold of the Lower Traverse light-ship, of whose condition we as yet knew nothing. We immediately steamed for her, and with considerable difficulty got her in tow, and succeeded in putting her for the night near the *Napoleon*, at Prairie Bay, and then learned that the Upper Traverse light-ship was in safety at Eboulements Wharf, and her crew all well. The debris we had seen at her

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station, was the mast and spars cut away from the ship *Amoor*, and supposed to have been caught in the wreck of the *Annette*. These masts are varnished, and the action of the water gave them the appearance of having been painted *red*, hence their being taken for the light-ship. Early in the morning of the 22nd, the steamer *Rescue*, from Quebec, neared us, and reported that they were proceeding to render aid to the ship *Amoor*. Notwithstanding the very threatening appearance of the weather, and the same degree of cold, viz.: 14° below freezing point, I insisted upon the captain making an attempt to reach Red Island. We proceeded about three miles, and were obliged to return, on account of a heavy snow storm, with strong easterly winds, which would have prevented anything being done at Red Island, even supposing we could have reached thither. Next morning weather having cleared up, left at daylight, and reached Red Island at a little before low water; visited the light-ship, and found her full of water, fore and aft, with no prospects of saving her. I had brought down a diver and his apparatus, and powerful pumps, with sufficient men to work them, and all other necessary material to aid in her recovery; none of these could, however, be used. All hands were then set to work to strip her of whatever could be saved, and as soon as the tide drove us off the weather indicated a change for the worse; proceeded to St. Paul's Bay, where we anchored for the night in nine fathoms. Before moving, the ice coming down with the tide, caused the steamer to drift a long distance, and fast driving her into the shoal, notwithstanding the great holding power of her "Martin's Anchor" with which she is supplied, and she was only saved by her great power of machinery. The light-ships at Les Eboulements being in safety for the winter, I left two men, Pierre Jobin, and another ship carpenter in charge, to open the Lower Traverse light-ship, and report upon the best means of putting her in a condition to take her station next spring. Very heavy repairs, if not a new ship, will be necessary.

We met ice all the way up in fields, covering the water from one side of the river to the other, necessitating the full strength of the *Napoleon's* powerful engines to break her way through. A heavy snow-storm raged the whole day, accompanied with a strong easterly gale. We reached Quebec about 11 a.m. on the 24th instant, and broke our way through the ice to winter quarters at Blais Booms.

It is the general impression of the captains, in which I concur, that as soon as the thermometer reaches 8° or 10° below freezing point, the navigation of the St. Lawrence below Quebec should be considered as being closed, and we would respectfully suggest that the Department name a date, say November 15th, or thereabouts, to withdraw the light-ships and take up all buoys, as no weather can be depended upon after that date, and all sailing craft run little, if any, chance of being able to proceed to sea. Six of the buoys usually left to facilitate the navigation of the most dangerous points have been lost, which is frequently the case by their being left for that purpose every season past this date.

I have requested Captain Levesque, of the Red Island light-ship, to prepare a report of her movements after leaving her station, and until she was wrecked, which I will forward to you to-morrow, with the opinion of the probabilities of her being able to withstand the effects of the ice during the winter, and any other information as may throw any light upon the subject.

My experience on the trips below has strengthened my confidence in the judgment and seamanship of Captains Gourdeau and Marmen, who showed a desire to perform their duty with due regard for the safety of the property under their control, and I am therefore fully convinced of the soundness of the statements I have heard them make during the past ten years I have been in this employ of the difficulties and dangers of navigating the Lower St. Lawrence, after the thermometer has reached below freezing point, viz.:

1st. Between Quebec and Kamouraska the river becomes quickly filled with sheet ice, and strong enough in one night, when brought in contact with wooden vessels to cut them through.

2nd. All land marks are completely obliterated with snow.

3rd. Buoys out of position, and tend to lead astray when so.

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4th. All bays and harbors filled with ice, and frequently cannot afford shelter.
5th. Anchorage very unsafe from pressure of ice.

I have, &c.,

(Signed) J. U. GREGORY,
Agent, Department of Marine and Fisheries.

Wm. Smith, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

Captain Levesque to Mr. Gregory.

QUEBEC, 25th November, 1873.

SIR,—I beg to hand you a statement of the loss of the "Red Island light-ship."

November 18th, in accordance with your orders at 12.30 a.m., I weighed anchor, and proceeded on the way to the Lower Traverse light-ship; wind blowing light S.E.; at 3 a.m. calm., ebb tide strong; came to anchor in 20 fathoms of water, at the west end of Red Island.

At 5 a.m. it commenced to blow a gale from the E.N.E.; got ship under weigh at 6 a.m., and I steered S. by W., as our compass was affected by iron ship, and it commenced snowing very heavy; I kept the lead going all the time, 20 fathoms of line out; no bottom. I had made up my mind to run up to the Brandy Pots for shelter, as it was blowing a terrific gale, and not safe to anchor anywhere else. At 8 a.m. got a cast of the lead at 13 fathoms, altered the course S.S.W., and again cast the lead and got seven fathoms; the sea was running very heavy at the time, so thick that we could not see anything before us. I rounded the ship too on the port helm and let go the anchor; took in jib and fore-sail, all the canvass that was on her at the time, and gave her chain as fast as we could; ship driving to leeward fast with the gale; at 8.15 the ship was driving close into the breakers, which I now saw for the first time. I let go the second anchor, after which ship commenced striking heavy, and saw that she was leaking in the engine room. We immediately closed up all the compartments, cocks, and got all the pumps ready; the sea was breaking over her at the time; at 8.45, engine room full of water, and water commencing to flow into the mess room very fast. I gave orders to the crew to save as much as possible of their clothing, and to put it on, and to take two or three fathoms of slight rope to make themselves fast with, up in the rigging. As the breakers were too heavy to launch a boat out before we took to the rigging, we made one boat fast to a wharp, and got her clear of the vessel full of water, where we left her swinging to the end of a wharp. At 9 a.m. we took to the rigging; sea washing clear over the ship, carrying away boats, davits, sky-lights, hatches, &c.; at 9 a.m., when the weather moderated and cleared up, I found the ship half a mile below White Island, on the south side, in six feet at low water, surrounded by the reef; crew all left the rigging, and got into boat, which we had made fast to the wharp, and baled her out, and got a sail on and steered for Cacouna, wind west, arriving there at 1 p.m., when I proceeded up to Rivière du Loup, and telegraphed you, and got an answer to say that the steamship *Napoleon III.* would leave next day, with all materials required to try and raise her. There was a train leaving Rivière du Loup at 8 p.m., which I took, and proceeded to Quebec; left Quebec in steamship *Napoleon III*, with Mr. Gregory and men on board, on the 21st November, to try and get the ship off, and got down to the vessel on the 23rd, and found no possibility of getting her off this fall, owing to the quantity of ice in the river and bad weather. All hands went to work and saved the dioptric light, all sails, running gear, blocks, tow line, &c., &c., and proceeded up to Quebec, and arrived there on the 24th inst., at 11 a.m., after a great deal of difficulty with the ice. All depends upon the action of the ice during the coming winter, whether anything of the light-ship remains or not next spring. The currents in the neighbourhood being strong, will carry heavy pieces of ice probably over the

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ship. I regret to say her chances are small, yet as she is so powerfully built, all the upper works may be carried away and her hull saved, which, in a few days' fine weather, might be pumped out, and in that case saved.

I have the honor, &c., &c.,

(Signed) JOSEPH LEVESQUE.
Master of the Red Island Lightship.

To J. U. Gregory, Esq.,
Agent of Department of Marine and Fisheries,
Quebec.

REPORT OF THOMAS CONNELL, CAPTAIN OF MANICOUAGAN LIGHTSHIP.

To the Editor of the Morning Chronicle.

SIR,—The unprecedented marine disasters which have occurred during the month which has just closed the season of navigation of the River St. Lawrence, prompt me, as master of the lightship stationed at Manicouagan Shoals, to give a short *resumé* of the principal events which came under my notice from the time of my departure from Quebec last spring, till my arrival on the 28th November instant.

A few short extracts also from the ship's log since the 1st of November, showing the weather which prevailed, may be of service in accounting for the number of shipwrecks, and will give the reason why I did not bring the lightship to Quebec.

I left Indian Cove on the 19th April last, and arrived at Manicouagan station on the 27th of same month. Nothing of moment occurred till the 8th of September last, when, at 6.40 p.m., wind being S.W., weather clear, I observed a full-rigged ship standing in towards Manicouagan white banks. At 7.15 p.m., perceiving that she was nearing the shore too close, and not having a code of signals, I ran up my ensign to warn her of her danger; but she did not alter her position, and shortly afterwards went aground. I immediately got boat No. 1 ready and proceeded to the ship, which I found to be the *Gibson Craig*, of Liverpool, John Ruthven, master, loaded with a general cargo. I went on board and remained till 3.15 a.m. on the 9th, when I succeeded in getting her off without any damage, and left her all right in 40 fathoms of water, with light S.W. winds.

After this everything went well till the 1st November, when the weather became cloudy, with appearance of snow. At 1 a.m. it thickened in with snow, and at 1.20 p.m. it blew a perfect hurricane from the S.W., accompanied with hail, the sea making a clear sweep over the ship. At 3.30 p.m. a sea broke on board ship, filling the deck to the rails. I was obliged to burst open the square ports in the bulwarks to allow the water to escape. The starboard rails were under water for about ten minutes. This weather continued, until at midnight the sea was breaking over the ship to that extent that the watch durst not venture forward beyond the mainmast.

At 8 a.m., on the 2nd, the wind moderated, but the weather set in very cold; on the 3rd it blew a perfect gale from the N.W., the thermometer indicating nine degrees below freezing point. I may here state that from this date till I left the lightship, the thermometer varied only between nine and twelve degrees below freezing point, and that ice had commenced to form as early as the 4th November. The weather henceforth was a succession of gales, accompanied with snow, the ice forming very fast. On the 13th, during a fearful hurricane from the S.E. and snow, at 2.30 a.m., a vessel's green light was observed passing close to the lightship bound W.; at 10.30 a.m. weather cleared up, stopped blowing fog alarm. I discovered a vessel, with canvas clewed down, ashore on N.E. banks of Manicouagan, apparently to me head S.W., the distance 6 to 7 miles from lightship, with a strong list to starboard, and perceived another brigantine to W.S.W. off lightship, bound east. The lightship at this time was totally surrounded with ice.

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On the 14th, the weather being clear, and observing that the wreck had her canvas clewed down, I got No. 1 boat ready to endeavor to go to her assistance, but owing to the quantity of ice, and the wind which prevailed, it was impossible to make even the attempt. At 2 p.m., it seemed to me that there was something white, which I took to be a flag flying from top of North Beacon. I answered with ensign, but it was useless to endeavor to reach the shore. On the 15th, the lightship was surrounded with fields of ice as far as the eye could see. At 6.45 a.m., I blew first fog alarm to signify to the crew of the wrecked vessel that I would make an effort to render them assistance. At 7 a.m., I manned No. 1 boat myself, and left the ship for Beacons to ascertain if any of the ill-fated crew had reached the shore. It was with extreme danger, and only after three hours struggling through the ice, that we gained the beach; and from an Indian whom I found encamped there, I learned that none of the shipwrecked crew had been there. The ice and snow on the beach were packed to a thickness of three feet. I supplied the Indian with provisions, as he was in a famishing condition, and as the quantity of ice was increasing every moment, I deemed it prudent to return to the lightship as quick as possible. Between 8.30 a.m. and 9.45 a.m., the fog alarm was blown three distinct times to attract the attention of the shipwrecked crew, but without success. At 1.30 p.m., I arrived on board my ship, and at 1.45 p.m., made a second attempt to succour the sufferers, and got as far as White Bank, a distance of three miles from lightship, but getting jammed in the ice, I was obliged to turn back, and it was with extreme difficulty I succeeded in getting on board my ship. A third attempt, at 5 p.m., proved equally fruitless, and night coming on, I was forced to return to lightship without having ascertained the name of the wreck or the fate of the crew. On the 16th, at 4 a.m., I got steam up, in order to get under way, and try and get as near the wreck as possible with lightship, and at 8 a.m. I set all sail; but found, after my anchor was to the bow, that the ship was too much by the head, and would not answer her helm. I was therefore obliged to take sixty fathoms of chain from forward and place it aft under the cabin floor in order to trim the vessel. I then stood down for the wreck, but at 10 a.m., before I got down, the wind, coming in from the east, fell light, and being flood tide, I drifted to the westward, still blowing fog-alarm signals to endeavor to get an answer from the crew of the wreck. At noon, finding all exertions unavailing, and being aware that the people on north-east end of Manicouagan, abreast of the wreck, are provided with small flats, by means of which they could render any assistance that was possible, I deemed it useless to remain any longer; and as my ship was drifting into deep water, surrounded with ice, and there being every appearance of bad weather, I determined to proceed to Quebec. As far as I could ascertain, the wrecked vessel was brigantine rigged.

The weather I experienced on my way up was such as I had never before seen. It snowed almost continually, and the storm of the 18th was something terrific. I signalled the ill-fated Red Island lightship at 4 p.m. on the 17th, and on the 18th, having passed the Brandy Pots, and being off Pilgrim's Light, about 3 a.m., it commenced to blow from the south-east, accompanied with snow. At 5 a.m. the wind had increased to half a gale, and at 7 a.m. to a gale, thick with snow. I took in mainsail, jib, foresail and staysail, and brought the ship to anchor in 10 fathoms of water, opposite St. Denis, paid away 160 fathoms of chain. At 8 a.m., thick with snow, and the wind, which had hauled to the north and eastward, was now a hurricane, the sea making a clean sweep over the ship, to such an extent that the crew could not remain on deck, and were obliged to take refuge below.

The fury of the storm continued unabated till 2 a.m. on the 19th, when it commenced to moderate. At noon, having got the anchor to the bow, wind being N.W., made all sail and stood to "norard." A large ship which was in company with me off St. Denis wharf, drove into shoal water, but I do not think she grounded, and when I lost sight of her she was still at anchor, and no canvas set. I passed the Traverse lightship at 4.30 p.m., and brought ship to anchor at 6 p.m., in seven fathoms of water. At 2 a.m. on the 02th, wind being light from N.E., I got under way; and at 5.30 a.m., brought up abreast of Goose Island reef, being so much ice, ship was unmanageable; large fields of ice

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continued to pass the ship during the whole ebb tide. At 1 p.m., I again got ship under way, and drifted her up with the tide under mainsail, as there was too much ice to beat up, and ship would not go through it. At 5.30 a.m., I anchored in 12 fathoms of water, to the north of Beaujeau bank, abreast of Hospital Rock, the wind being S.W. The ice at this place was very thick, and drifting in immense sheets, would force the ship, then anchored with 180 fathoms of chain, in whatever direction the tide chose to take it, so that I expected every moment the ship would break from her anchor. I here blew fog-alarm to request Commander Lavoie, at L'Islet, to telegraph to the Department the position of the ship. At 4 a.m. on the 21st, I tripped my anchor, and got in as far as south bank of Goose Island, in four fathoms of water, amid a perfect sea of ice. At 8 a.m., a body of ice came down on ship, then riding with 160 fathoms of chain, and started the anchor from its hold. The ship drove for some time, and I had to increase the number of fathoms to 200 before the anchor took a fresh grip. I then hove short, and broke ship through the ice, and went into where she barely floated at low water.

At 12.30 p.m., steamship *Napoleon*, with Mr. J. U. Gregory on board, came close to ship, and I received instruction to put her on shore for winter quarters, which I accordingly did, and she now lies in perfect safety on the mud, about one-fourth of a mile above Hospital Rock. From 22nd to 27th, the crew were employed in securing the ship and laying her up for the winter; and on this last-mentioned day, at 11 a.m., I started with them in a canoe, furnished us by Mr. Gregory, for L'Islet. Three of the men and myself went through the ice up to our middle in water when starting, and it was only after five hours' hard work that we reached L'Islet, wet and cold.

I got on board the Grand Trunk on the day following, and reached here, as I have already stated, on the 28th. Had I not spent such a time in endeavoring to render assistance to the wreck at Manicouagan, and if lightship had propelling power by steam, I would have got to wreck, and could have rendered assistance to the unfortunate sufferers, if any survived, and would have reached Quebec with my ship.

After the experience of eleven days' passage of fall of 1872, from Station to Quebec, and, as above stated, of this fall, I would strongly recommend to the Department the necessity of placing in lightship a propelling power by steam, as no doubt it would be the means of saving many a poor wrecked mariner, not only on that station, but on her way to Quebec, if any vessel were stranded between the above places.

I feel, Mr. Editor, that I have already trespassed too much on your valuable space, and far beyond the limits which I assigned to myself in commencing; but I really cannot conclude without making it public, that it is to the patent anchor, known as Martin's patent, with which Mr. Gregory had provided the lightship, that myself and crew owe our safety. For it was that which enabled us to ride out the gale of the 18th, and saved us off Goose Island reef.

I am, Mr. Editor,

THOMAS CONNELL,
Master Manicouagan Lightship.

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APPENDIX No. 61.

REPORT OF THE PORT WARDEN OF QUEBEC.

PORT WARDEN'S OFFICE,
QUEBEC, 18th April, 1874.

SIR,—I have the honour to acknowledge the receipt of your letter of the 17th inst., desiring to be informed as to the working of the Amendment Act relating to Port Wardens.

In reply, I have the honour to inform you that the working of the Amendment Act, in connection with this office, as passed at the last session of Parliament, has been most favourable, and attended with no difficulty so far as the preparation of vessels for cargo and proper stowage is concerned. The overloading of steam and other vessels was punctually attended to, and with good results. I have no hesitation in stating that the Amendment Act has been the means of saving life and property.

I have, &c.,

(Signed) JOHN DICK,
Port Warden.

To William Smith, Esq.,
Deputy of the Minister of Marine, &c.,
Ottawa.

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APPENDIX No. 62.

REPORT OF THE PORT WARDEN FOR MONTREAL.

MONTREAL, 22nd Dec., 1873.

SIRS,—The season of navigation having come to a close, during which the Amendments of the Act, as passed last session, have been in full operation, I herewith, as requested, beg to lay before you my views with regard to its working.

I found at first much dissatisfaction expressed, and had to meet the predictions of many that our trade and business would be seriously hampered if the law was enforced; however, these opinions have been much modified as the new order of things became rightly understood. Many ship masters and owners expressed their gratitude that such measures had been adopted, at the same time regretting that a similar law was not enforced throughout the world. I am fully convinced in my own mind that the opposition I met with from other masters was prompted by a desire on the part of those showing it, to prove their zeal on their employers' behalf.

From my experience I am fully of opinion that the amendments have been advantageous to all, where they have been fully carried out; but I desire to draw particular attention to a most important fact, viz.—that generally, steam ships (which class of vessels is fast taking the place of sailing craft) have to call at another port for their supply of fuel, particularly of late, when coals are so high at home; in almost every instance these vessels leave our port intending to call at either Pictou or Sydney, where unfortunately, there are no Port Wardens, and to which places the Act does not apply; consequently, although when granting my certificate of clearance from Montreal, in which the limit is given by me for the vessels when fully loaded, coaled, and complete at the port of call, I have it from most reliable authority that, owing to the want of some person to enforce it, it is totally discarded; and those captains so disposed load as deep as they like, the very cheapness of coals in comparison to prices at home being rather an inducement than otherwise. The only safeguard I can see under the circumstances is, that the Act be extended to those places, and that Port Wardens or some other parties under official control be appointed to see that the law is fully carried out.

With reference to the extracts from letters of steam ship owners submitted to me, I had failed to discover that any real cause of grievance has been made out, and this I will endeavour to show.

There are three things complained of:—First, dissatisfaction against bagging so large a proportion of the cargo. Since the office has been established in 1863, the bye-law with regard to vessels being obliged to bag a proportion of the cargo according to their tonnage, has stood without alteration; and until the present class of steam vessels came into the trade (a description of ships which should be compelled to conform to the rule more than any other) no objection worth speaking of has been raised. These large vessels, carrying from 50,000 to 80,000 bushels of grain, loaded from elevators in a couple of days, which does not allow time for it to settle, are, as I have already stated, the very ones that require this restriction. The fact of so many vessels having been lost from shifting of their cargoes during the past few years is in itself sufficient answer to this objection.

In clause 23 of the Act of Parliament, it is distinctly stated that the Port Warden shall be governed by the Regulations of Lloyds, so far as they are applicable to the Port of Montreal, and to the circumstances of the case. Now Lloyds' rule for the stowage of grain cargoes at Montreal provide "that no vessel over 400 tons register can be loaded

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entirely with grain in bulk, and all vessels over that tonnage may take two-thirds of cargo in bulk and one-third in bags." From figures furnished in the statement under review, it will be seen that on the average of 38 voyages, the quantity of bags was within the requirements of the law. The reason why some vessels require more bags than others of the same tonnage, is entirely owing to their construction.

Before the amendment to the Act came into operation, and when, by paying the fine of $40, captains of these vessels had it in their own hands to load them in accordance with their own and owners' ideas,—which state of things they are again asking for. All know what the disastrous consequences were—in one season seven ships having been lost.

The second matter complained of is the "lining." This has already been before the notice of your Board on a previous occasion. The 12th clause of the Act of Parliament runs thus: "That any vessel intending to load grain (without distinction) in bulk, must be first lined;" and Lloyds rule is, "That all loose or bulk grain must be taken in bins prepared for that purpose; to be lined with thoroughly seasoned boards, and grain tight."

I quote a minute of the Board in May, 1872, relative to this matter:—

"In reply to your favour of the 10th inst., asking the Board of Examiners to re-consider the rule requiring the lining of vessels for loading grain, as far as the same applies to first class iron steamers and clipper sailers, I have to say that the Board, having carefully considered the matter, does not find itself warranted in suggesting any change."

With reference to the complaints of extra charges involved, I may state that from the tabular statement submitted, it appears the average cost of lining, bags, and labour in bagging, on 38 steamers' cargoes during the season, amounts to about sixpence sterling per quarter, subject to deduction if the material of the lining were disposed of.

The third grievance is their not being allowed to take as much cargo as the owner thinks proper to put into the vessel, or as much as she has previously carried from the Black Sea ports. To expect a vessel of the description that these steamers generally are (open deck) to cross the Atlantic with the same quantity of cargo on board that they would load for a voyage from the Mediterranean, at once shows the entire ignorance on their part of Atlantic navigation. Vessels loading in any of the Black Sea ports take in from 50 to 70 tons of coal for ship's consumption, where she would be obliged to take from this side 250 to 270 tons, thus giving her at once room for 200 tons more cargo; as from the port at which they load to Constantinople is but a few days' run, requiring but a small quantity of coals from there to Malta and Gibraltar, and from the latter port home, the same; thus from the beginning of the voyage to the end, she is always within a few hours' run of some place of refuge, and everything is in their favour on the other side. No restrictions on their loading, or stowage of their cargo, and the manner of loading the grain (by manual labour from baskets) is an advantage to the stowing or settling of cargo; as also the fact that they gain some inches from the extra buoyancy of the water. From this side of the Atlantic, on the contrary, they have to coal up for the whole voyage, and also be prepared for contingencies on starting; because after leaving our Gulf, there is no harbour of refuge.

I have always allowed the greatest latitude, that from my own experience of many years' trading across the Atlantic gave me, to these vessels in loading, being guided more by their class, description, and build, than any set scale. I have been in communication with all the Port Wardens on this side of the Atlantic, and have also consulted the different scales issued from Underwriters' Associations at home, on this subject; and having taken the whole into careful consideration, together with my own personal experience, have acted to the best of my judgment, and all dissatisfaction to the contrary notwithstanding, I am convinced that I cannot be far wrong; for although these owners write in the strain they do, it is nevertheless a fact, that they send their vessels back a third voyage in the same season. And further, it is clearly shown, that from their desire to be allowed to load for an Atlantic voyage to the same draught as for a Mediterranean one, they do not realize the dangers attending Atlantic navigation.

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I may say, that having now seen accounts of the arrival at their destination of all the vessels except two or three laden here during the season just closed, I have only heard of the case of one vessel (the barque *Allan*) that suffered from shifting of her cargo.

There is no complaint before the Board, nor do they know of any from the well-known lines of regular traders that frequent the port.

I am, Sir, yours respectfully,

(Signed,) A. SCLATER,
Port Warden.

To the Board of Examiners for the
Port Warden's Office.

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APPENDIX No. 63.

REPORT OF THE SHIPPING MASTER FOR THE PORT OF HALIFAX, NOVA SCOTIA, FOR YEAR ENDED 31st DECEMBER, 1873.

STATEMENT showing number of seamen shipped and discharged at the Shipping Office, Halifax, N.S., from 1st January, 1873, to 30th June, inclusive, and Expenditure in connection with the same.

				Wages.
Number of men shipped in	January	213	$20	
do	do February	150	20	
do	do March	213	20 and	$18
do	do April	277	20 and	18
do	do May.....	451	20 to	25
do	do June	252	25	
		1,556		

Number of men shipped during past half year 1,556,, at 50 cents per man..	$778 00
Number of men discharged during past half year 943, at 30 cents per man	282 90
	$1,060 90

EXPENDITURE.

Assistant, office rent, stationery and incidental expenses.....	$583 00
	$477 90

JOHN D. CUMMINS,
Shipping Master.

HALIFAX, N.S.,
2nd July, 1873.

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STATEMENT showing number of seamen shipped and discharged at the Shipping Office, Halifax, N.S., from 1st July, 1873, to 31st December, 1873, inclusive, and Expenditure in connection with the same.

				Wages.	Runs.
Number of men shipped in		July.....	241	$25	$40
do	do	August.....	265	25	50
do	do	September	259	24	50
do	do	October	276	24	50
do	do	November.....	249	25	50
do	do	December.....	291	25	50
			1,581		

Number of men shipped during past half year 1,581, at 50 cents per man	$790 50
Number of men discharged during past half year 1081 at 30 cents per man	324 30
	$1,114 80

EXPENDITURE.

Assistant, office rent, stationery and incidental expenses	$618 00
	$496 80

JOHN D. CUMMINS,
Shipping Master.

HALIFAX, N.S.,
4th January, 1874.

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APPENDIX No. 64.

STATEMENTS AND EVIDENCE

Submitted by the Hon. P. Mitchell, Minister of Marine and Fisheries, before the Parliamentary Committee on Banking and Commerce, on the 18th day of April, 1873, in relation to a Bill entitled "An Act respecting Deck loads," referred by Parliament to that Committee for its consideration and Report.

MR. CHAIRMAN,—The Bill which has been referred to you by Parliament, and which you have now under consideration, is one of vital importance to the character and reputation of our country. It is a bill of such a nature that, while I freely admit that it places some restriction upon trade, it will at the same time give additional security to life and property; and so intimately is the matter connected with the trade of our country that Parliament has been asked to consider the question, and pass a measure of the nature of that now under the consideration of the Committee.

I feel, that in submitting this Bill, I may, in some measure, affect a trade in which, above all other portions of the Dominion, my own Province is most concerned, and one in which, from its extent and character, the mercantile community of the leading commercial city of the Maritime Provinces is most deeply interested. I feel also that the opposition which was given to the measure by the able gentleman representing the City of St. John, upon this most important qustion, when it was introduced into Parliament, demands from me the fullest explanation, and that the position I have assumed in advocating the measure ought to be sustained by evidence and proof satisfactory to the minds of this Committee.

This Bill may be considered as dealing with two distinct trades. The first part of it with the trans-Atlantic wood trade, and the second with the West India wood trade; and the provisions which I have thought it desirable to submit, in dealing with these two trades, differ to some extent.

Previous to the year 1840, many representations had been made to the British Government, that owing to the large deck loads of timber carried from the North American Colonies to the United Kingdom during the winter months, great suffering and loss of life had been occasioned amongst the crews of ships laden with timber and wood; and an enquiry was instituted by the British Government as to the truth of these representations.

A number of persons connected with the trade of British North America were examined on the subject, and the result of the enquiry was, that a Bill, entitled "An Act for regulating the carriage of cargoes of timber for one year," was introduced into the Imperial Parliament and became law, 5th and 6th Vict., cap. 17.

In the commencement of that Bill it is recited that "great loss of life and severe "sufferings have been occasioned among the crews of ships and vessels laden with timber "and wooden goods from the Ports of British North America, from the practice of having "a portion of the cargo of such ships stowed on or above deck"; and the Bill then proceeds to interdict the carriage of such deck loads, so that it would appear that it was not for the purpose of protecting property that the Bill was passed, but entirely for the purpose of protecting life and saving the crews of such ships from suffering.

These provisions were continued by the Imperial Act 8th and 9th Victoria, cap. 45, and were repealed by cap. 84, but again re-enacted by cap. 93, of the same session. They were again embodied in the Imperial Act 16th and 17th Victoria, cap. 107, and continued in force until the 29th July, 1862, so that the provisions of the deck load law

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were in operation about twenty years, and were generally admitted by seafaring men to have been productive of much benefit, and to have greatly reduced the fatal casualties of the sea.

By this law all vessels clearing from any ports in British North America for ports in the United Kingdom were absolutely prohibited from carrying any cargo on deck after the 1st September and before the 1st May, leaving only four months in which vessels were allowed to carry deck loads.

The law allowed, however, the carriage on deck of spare spars, or other articles necessary for the ship's use, and the Commissioners of Customs gave instructions to their officers to interpret this permission to mean a duplicate of every spar in the ship, except the lower masts and bowsprit, and that such spars might be taken in the rough. The consequence was that a full-rigged ship generally carried forty-two rough spars, some of them of large size, suitable for main yards when dressed down, and some of them of dimensions fit to make smaller yards and top-masts. A barque could take thirty-six spars, and a full rigged brig about twenty-six. This was, no doubt, an abuse of the law, and was never contemplated by the original framers of it. They intended that spars which might be needed to meet contingencies or accidents to the vessels should be carried, and not that (comparatively speaking) an unlimited number for purposes of trade and of any size should be taken, as was done in many cases, by those who desired to evade the law.

The practical working of the permission to carry spare spars resulted in an evasion of the law, and the deck cargoes of spars usually carried by vessels in the winter time, amounted to a pretty heavy deck-load, and of a very dangerous description, as the spars were generally rough and wet out of the ponds, very heavy and very long, and in the event of the vessel getting on her beam ends, they were generally more dangerous than deals. as in a very short time they would tear to pieces the rigging and top work on deck.

In the year 1861, when the differential duties between British and Colonial timber and deals were repealed. the owners of vessels clearing with cargoes of deals from St. John, New Brunswick, soon found out that a British Colonial clearance was of no value to the vessels, as, on their arrival in the United Kingdom, it made no difference as regarded the cargo. whether it was a British, colonial or foreign production ; and in order to avoid the deck-load law, shippers from the Bay of Fundy, in many cases, loaded their vessels with deck-loads after the 1st September, and proceeded to Eastport in the State of Maine, entered their vessels there, and took a clearance for the United Kingdom, as there was no law in the United States to prevent them carrying deck-loads. This evasion of the law could not be practiced in the St. Lawrence, but was confined entirely to Bay of Fundy ports. The subject was brought under the notice of the British Government by the Controller at St. John, and on being asked what he would recommend in lieu of the deck-load law, as it then stood, he consulted many ship-masters, ship-owners, and the members of the Chamber of Commerce of St. John, and found that all interests would be satisfied with permission to carry, during the winter months, a deck-load of deals or sawn lumber (but no timber or rough spars) to the extent of three feet in height, and if permitted to do this they would not go to a foreign port for a clearance. As this deck-load would not be of that excessive character which would imperil the safety of the ship or the lives of the crew, it was recommended for adoption. I believe a measure of this kind was proposed by the British Government, and circulated amongst the ship-owners of the United Kingdom, but as many of them were of opinion that it was a question which should be left between the underwriters and ship-owners, the Bill was not introduced into the House of Commons, and on the 29th July, 1862, an Act to amend the Merchant Shipping Act 55, and the Customs Consolidation Act, 53, was passed by the Imperial Parliament, and in a schedule of that Act, the sections relating to deck-loads (viz., 25 and 26 Victoria, cap. 63, sections 170, 171 and 172 of 16 and 17 Victoria, cap. 107), were simply repealed, and nothing was submitted in their places. This, in my opinion, resulted mainly from a feeling which had grown up among the shipping interests of the United Kingdom and British America, that the old law was too restrictive and

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prohibitory, and, as frequently happens, the other extreme, the withdrawal of all restriction, was adopted.

Since that period, vessels carrying cargoes of timber and deals, have, as a general rule, carried heavy deck-loads, and it appears that serious losses have annually occurred.

In a paper on the subject of deck-loads, read before the Dominion Board of Trade in January last, by its able President, Mr. Henry Fry, it is stated that forty-nine sailing vessels, bound from the St. Lawrence to the United Kingdom, were lost on the voyage, forty-two of which were laden with wood, six with grain and flour, and one with fish, and he believed that fully three-fourths of all the losses of wood-laden ships in the North Atlantic, in the fall of the year, might be traced directly or indirectly to the practice of carrying deck-loads.

He stated that most of the Quebec ships which reached Great Britain last fall, were those which either took no deck-loads, or lost the whole or part of them by throwing them overboard when the ship began to labour or get into trouble.

Of the forty-two timber-laden vessels which were wrecked, he stated that only one left the St. Lawrence without a deck-load, and that thirty-five of them were waterlogged in the Atlantic and abandoned.

With the permission of the Committee, I will read Mr. Fry's very able paper.

DECK LOADS.

A Paper read before the Dominion Board of Trade at Ottawa, January, 1873, by Henry Fry.

"When I state that during the season of 1872 no less than 62 large sailing ships "and nine iron steam ships, all engaged in the lumber and grain trades between the "St. Lawrence and Great Britain, have been totally lost; that the value of these vessels, "their cargoes and freights amounts to over four millions of dollars, and above all, that "over 250 valuable lives have been sacrificed, I have said enough to prove that the "subject is one demanding the careful attention of this Board and of the Government "of the Dominion. Can the loss of any of these ships be traced to preventible causes, "and can anything be done by legislation or otherwise to prevent such a lamentable "sacrifice of life and property in the future? These are the two questions I propose "briefly to discuss in this paper. It is somewhat remarkable that of the 62 sailing "ships only 13 were wrecked on their outward voyage, no less than 46 being homeward-"bound; whilst of the nine steamships two were outward bound and seven home-"ward. I dismiss the outward-bound ships at once, most of them having been lost by "lee or fog, and turn to the homeward-bound ships, over which our Government "can alone exercise control. Of the 49 sailing ships, 42 were laden with "wood, six with grain and flour, and one with fish. Primarily, of course, the "terrific gales of 8th, 18th, and 28th November will account for the loss of the "greater portion of those homeward-bound ships, and for the disproportion between "the loss of ships on the outward passage as compared with the homeward; but "a close acquaintance with the North American trade for the past thirty years has con-"vinced me that *fully three-fourths of all the losses of wood-laden ships in the North "Atlantic in the fall of the year, may be traced directly or indirectly to the practice of "carrying deck-loads*, and the facts I have been able to collect with reference to recent "losses confirm me in this opinion. Most of the Quebec ships that reached Great "Britain last fall were those which either wisely took no deck-loads, or lost their deck-"loads, either in part or the whole, by throwing them overboard when the ship began "to leak, or allowing them to be washed overboard; whilst of the 42 wrecked ships, so "far as I have been able to ascertain the facts, *only one left the St. Lawrence without a "deck-load*, and 35 were abandoned in the Atlantic waterlogged. The harrowing details "of these wrecks conclusively show how much deck-loads contributed to the loss, and the "various ways in which they bring about the destruction of ships and their crews. "Most of the ships engaged in this trade are necessarily second-class ships, many of

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"them having seen their best days, and some of them not too well found. They are, "too, peculiarly unfitted for deck-loads, from the fact that most old ships are weak in "their upper works from decayed iron fastenings, and defective frames and beam arms. "As soon, therefore, as a ship begins to roll in a heavy sea, she strains and leaks, and "the deck-load causes her waterways to open; if the pumps are good, *and the crew can "stand at them*, she may possibly escape; but far more frequently when the pumps are "most needed, they are least available; a sea breaks on board, the deck-load gets adrift, "the sailors get their limbs broken, or they are killed by loose logs in trying to get them "overboard; or the pumps are broken off at the deck by loose timber washed about, and "thus rendered useless; the ship becomes waterlogged, provisions and fresh water are "destroyed, and the unhappy crew take to the rigging or the tops, there, alas! to freeze "or perish, amid the horrors of starvation, cold and delirium. Impressed by these facts, "the British Legislature, some 33 years ago, passed an act prohibiting all vessels clearing "at ports in British North America for ports in the United Kingdom from carrying "deck-loads after the 1st September or before the 1st May in each year. I venture to "say that 99 out of every 100 seamen engaged in the trade hailed the Act as a great "boon, and that during its existence it saved the lives of thousands of British seamen. "Most unfortunately, as I think, in 1862, by a simple clause in a "Customs Consoli- "dation Act," this beneficent law was summarily repealed, and to this day I have never "heard any valid reasons given for its repeal. I know that the British Government "have a theory that all such interference with trade, all inspection of ships, &c., is un- "wise, because it throws the responsibility off the shoulders of those who ought to bear "it, and casts it upon the inspectors, and this is true within certain limits; but I deny "altogether that it is valid where human life is concerned. Mark how carefully the "Government insist on the inspection of emigrant ships before they are allowed to sail, "and of all steamships before they are permitted to carry any passengers. In various "ways all civilized governments seek to protect their subjects from the consequences of "the wilful carelessness, neglect or greed of their employers. The only other reason I "have ever heard given was that some American shipmasters had evaded the law by "first clearing without a deck-load at St. John, N.B., and then taking one on board at "Eastport, it being brought by lighters from St. John. This, however, could have been "easily cured by a penalty imposed at the port of discharge. Ask any intelligent seaman "what he thinks about deck-loads, and he will reply—"Ships are not built to carry "deck-loads, and it would be a good thing if they were prohibited by law; but if So-and- "So carries one, I must do so, or I shall probably lose my situation. But some of my "commercial friends may say, 'This is not a matter that affects us; it is a matter for "the English shipowners and underwriters to settle between themselves, and if you must "have an 'Act of Parliament' you should go to the Imperial Parliament for it.' Now "this is a very mistaken view of the matter. Who will pay these four millions of "dollars lost in 1872? Not the underwriters ultimately, for in the average of years "most of them make a profit out of the business and not a loss, and they are but a "medium for collecting a tax from the fortunate for the benefit of the unfortunate; "not the shipowners, for in many cases they are fully insured; no, the loss will be borne "either by the producer or consumer of what we have to export, or what we require to "import, in the shape of increased premiums of insurance or rates of freight. It is plain "enough that if the value of Canadian wheat or Canadian lumber is regulated by its "value in the markets of Great Britain, where they have to compete with the products "of other countries, then whatever is paid in increased cost of insurance or freight "must come out of the pockets of the producer; and thus every Canadian farmer and "every Canadian lumberer is interested in the question. Our fall premiums of insurance "do in fact kill a great deal of our fall business, or render it unprofitable. Sir, I do not "come here to plead for either shipowners or underwriters; I have no great amount of "sympathy with either; as they are able, as a rule, to take care of themselves; the for- "mer owe their losses to their own cupidity, in very many instances, and, as I said before, "generally protect themselves by insurance; whilst the latter by a single line inserted

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"in their policies could prohibit deck-loads altogether. But I plead for this law in the "name of humanity, in the name of the thousands of poor sailors who every year flock "to our shores, and who are bound by a rigid legal instrument to stick to their ships "and do their duty, though death stares them in the face; and who, once having signed "articles, have no right to object to any amount of deck-load that may put a few pounds "in the shipowner's pocket, although it may, and often does, increase the sailor's risk ten-"fold, unless it is prohibited by law. I plead for it in the name of the hundreds, perhaps "thousands of widows and orphans who are deprived of their natural supporters, and cast "upon the world in poverty and wretchedness for lack of the protection which every "sailor has a right to expect in his perilous calling. I trust this Committee will pass "unanimously the resolution I have had the honour to propose, and that Parliament will "during the present session pass a bill to restrict within reasonable limits the carrying "of deck-loads. It is necessary that I should say a few words with reference to the "seven steamships which are believed to have been lost last fall. One ran ashore in a "fog; another capsized near Sydney, C.B., with the loss of eight lives; a third capsized "near St. Paul's, with the loss of all her crew save one; the other four have never "been heard of, but are believed to have been lost in the same way, and that every soul "on board has perished. None of these seven vessels belonged to our regular lines; "all were loaded with grain in bulk, and all were very deeply laden. They were all boats "of small power, but large carrying capacity. The grain being in bulk and loaded very "rapidly by elevators, naturally shifted at sea, and with a heavy roll it would continue "to shift and re-shift and cause the ship to capsize. This I believe to be the cause of the "loss of these vessels. Now, in relation to the St. Lawrence grain trade there is a Port "Wardens' Act for Montreal, were these ships were laden, containing provisions which "have proved inefficient for the prevention of such catastrophes. The officer appointed "to see them carried out reported the necessity for a change in the laws and the passage "of more restrictive measures. The penalty for evading the provisions of the existing "act is forty dollars! I believe I am correct in saying that all these vessels paid the "fine, and refused to obey the Port Warden's orders, with the result above stated. The "Act has been so amended as to provide that no grain laden vessel shall be allowed to "clear without producing to the collector a certificate from the port warden that the "law has been complied with; and in addition thereto the penalty has been so increased "as to make it unprofitable to the shipowner to avoid the law. This class of vessels is "likely to increase in number, and do a large share of the grain business of the St. Law-"rence. It is therefore important that the Port Warden should have the necessary power "to protect the lives of the crews and passengers as well as the property of the shippers "and the amendment to the existing law is a step in the right direction."

In this paper Mr. Fry has dealt entirely with the transatlantic trade, and has made recommendations very much of the same nature as those contained in the Bill originally passed by the British Parliament in the year 1840; and I must say that, while I agree in the main with the views entertained by Mr. Fry in relation to the abuses of the trade and the necessity for some legislation, and while I appreciate and value the statements made by a gentleman at the head of the United Boards of Trade of Canada, and one who possesses such great experience as Mr. Fry does, I nevertheless feel that the extreme character of a measure which would prevent entirely the carrying of deck-loads during the periods he has named, viz., between the first day of September and the first day of May, is so prohibitory in its character that it would create a feeling that the trade had been unnecessarily restricted.

I cannot agree with Mr. Fry that all deck-loads are a positive evil, and calculated to endanger shipping. On the contrary, I think that a moderate deck-load, if composed of deals, which, as we know, are easily handled in case of difficulty, instead of endangering the vessel, may, in very many cases, increase her seaworthiness; and it is contended by many who have spent a lifetime in the trade, that with a moderate deck-load, such is the effect in nine cases out of ten. Much, however, will depend on the build of the vessel.

I was much struck with the remarks of my honorable friend, Mr. Coffin, the member

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for Shelburne, who has had an experience of thirty years as a ship-master, and the frankness and fairness which he exhibits on all occasions give weight to his testimony and value to his views. I quite agree with him, that in a great many cases, if not in all, a moderate deck-load, so far from injuring a ship, has a tendency to make her more seaworthy than otherwise. Hon. gentlemen admitted the force of his illustration when it was discussed in Parliament, and I have chosen to adopt the moderate views which he has taken—views acquiesced in by those who have had practical experience in the trade—of permitting a moderate deck-load, rather than the extreme view recommended by Mr. Fry in his able paper, and for that reason I have proposed in the Bill, that from the 1st day of October until the 16th day of March, deck-loads might be carried to a height of three feet on transatlantic voyages; you will perceive that this shortens the time of prohibition. It may be asked why this was done? My answer is, that from the best information I could gather from seafaring men, ship-owners, shippers and others, (and this experience should command the attention of public men,) the limitation named in the Bill is not an unreasonable one, that the passage of the Act is a desirable measure; and considering, as I think we ought to do, the manner in which it may effect the great staple trade of our country, as well as the promotion of greater security to life and property, I think the limitation is one more likely to attain all the objects to which I have alluded than if the measure were more prohibitory.

No restriction has hitherto been placed upon vessels carrying deck-load cargoes to the West Indies, although for some years past the practice has been adopted of carrying very heavy deck loads from St. John and other ports in the Lower Provinces. During the winter months the deck loads of lumber, or wet sugar-box shooks, which were carried to the West Indies from ports in New Brunswick and Nova Scotia, were frequently piled several feet above the rail, and it became very dangerous for men to walk on them, and extremely difficult to manage the vessels, more particularly if they became iced, as they generally do in our severe winter weather, and in consequence many vessels have been lost and many lives sacrificed.

In April last year, the British Consul General at Havana brought the subject under the notice of the British Government, and stated that many vessels coming from North American ports, especially from St. John, N.B., were overloaded, and consequently both ship and cargo ran extraordinary risks, and the lives of those on board were endangered, and he recommended that such vessels should undergo some kind of inspection, and that there should be some stringent regulation on the subject of deck-loads generally. This letter was referred by the British Government to the Government of Canada for their consideration.

I will, therefore, now proceed to review the second branch of the Bill which may affect the trade with the West Indies; and I may state at the outset, that I have not included in this, for reasons hereafter to be named, the trade between Canada and the United States, which may be considered more in the light of a coasting trade. The trade of our country with the West Indies is mainly carried on from the southern shores of New Brunswick and Nova Scotia, and especially during those portions of the year when the navigation of the St. Lawrence is closed. The trade from the markets of the St. Lawrence, and other portions of the Province of Quebec, with the West Indies, is comparatively limited in its character, and from climatic reasons, is confined to the six or eight weeks before the closing of navigation. Therefore, the conditions of this portion of the Bill are of secondary importance to the people of Old Canada, hence the total absence in Mr. Fry's paper of any reference to that trade.

The trade from the ports in the Bay of Fundy, which mainly centres in the leading port of St. John, is principally carried on in a class of vessels differing considerably from those in which the transatlantic trade of the St. Lawrence is done, and from the return which I hold in my hand, and which, with the permission of the committee, I will read, it will be seen that the average height of the deck-loads which are carried to the West Indies is about five and a half feet, but they vary very much, rising as high as nine feet and going down to two and three feet, and in some cases to none at all.

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Deck Loads—February, 1873.

Rig.	Name.	Reg. Tons.	Port of Registry.	Nature of Cargo.	Where bound.	Deck Load.
						Feet.
Schooner	Active	131	St. John, N.B.	Boards	To Matanzas, Cuba	4½
do	J. W. Scott	109	do	do	To Providence, U. S.	8
Brig	John Good	343	Digby, N.S.	Sugar shooks	To Cuba, about 12 tier	5½
do	Nellie Scott	296	Eastport, Me.	Pine boards and shooks		
Schooner	George Calhoun	109	St. John, N.B.	Boards and empty oil barrels highest cargo taken was 8 ft	To Portland, Me., about	6
do	Lizzie Dewey	374	Lubec, Me.	Shooks	To Cuba	
do	W. E. Heard	587	Yarmouth, N.S.	do	do	3
Barque	Angola	122	Parrsboro, N.S.	do	do	3½
Brigantine	Roswell	234	Eastport, Me	do	do	4½
Schooner	Harold	882	Halifax, N.S.	Deals	To Liverpool, under	5½
Barque	Vesta	132	St. John, N.B.	Boards	To Cuba	3
Schooner	Mary E. Thompson	171	Boston, Mass	do	do	5½
do						7
Barque	John G. Hall	326	Digby, N.S.	Shooks	To Cuba, 14 tiers	6½
Brigantine	Chimborazo	181	Boston, U.S.	do and boards	do	5½
Barque	Delta	445	Norway	Deals, &c.	To Great Britain	3
Schooner	Ida J	93	St. John, N.B.	Boards, &c.	To Boston, U. S.	5½
Brigantine	Lulu	299	do	Shooks and boards	To Cuba	8
do	Magdala	205	do	do	do	5½
Schooner	Ada Louisa	76	do	Boards	To Pawtucket	8
do	R. A. Ford	114	do	do	Providence, R. I., this vessel, master says, has taken 10 feet	7
do	Bessie Black	207	St. John, N.B.	do	To Cuba	7
do	Irving	106	United States	Shooks	do 13 tiers	6
do	S. B. Hume	335	do	Boards	do	5
Ship	Parkfield	1,389	St. John, N.B., Pass	Timber and deals	To Liverpool	5
Barque	Colorado	682	Yarmouth, N.S.	do	To Dub'in	5
do	Sirian Star	610	do	Deals	To Londonderry	4½
Schooner	Lizzie Irwin	171	St. John, N.B.	Shooks	To Matanzas, Cuba, 13 tiers	6
Barque	Abbie Thomas	590	Nova Scotia	Deals	To Great Britain	4½
Schooner	Arcilla		St. John, N.B.	Shooks	To Portland, Me., 13 tiers	6
do	George V. Richards	136	do	Boards	To Cuba	6
do	Anna Currier	104	do	do	To Boston	7

In measuring *carefully* I find that seven tiers of box shooks gives three feet two inches in height. Most of the coasters would prefer to have their deck-load (if they carried any) to reach above the rail, as any space on the deck would hold water or ice if in the winter.

Customs, St. John, N. B.,
28th February, 1873.

J. BARBER.

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By the return it will also be seen that this great variation in the height of the deck-loads does not depend upon their ships, as we find that a ship of 125 tons carries, in many cases, more deck-load than one of 300 tons, the one being less than half the size of the other, and to this trade I propose to apply the prohibition in relation to deck-loads, commencing on the 15th November and ending on the 16th March. I do not propose to restrict it in any way between these dates. I propose by the Bill that vessels in this trade be allowed to carry deck-loads during the period of restriction to the height of not more than six inches above the main rail. Under the original Bill, it was limited to the main rail, but at the suggestion of gentlemen practically acquainted with the trade, I have consented to the additional six inches, as I am informed it tends to secure the lashings and gives additional security to the cargo, and further, no deck-load is to be more than 4 feet 6 inches above the main-deck.

When I look at the returns which I hold in my hand, showing what are the deck-loads usually carried, I own I think the measure which I have submitted should not be looked upon as restrictive, but one most liberal in its character. I regret, however, that the representatives to whom I have referred from that section of the country which most extensively carries on this trade, fail to view the matter as I do and under instructions no doubt from some of the leading gentlemen in this trade are opposing the Bill now before the Committee.

It will be asked, and indeed has been asked, in another place by gentlemen opposed to this Bill, why it is that I have not dealt with the deck-load business from the Bay of Fundy to the United States, I may state in reply that while I am not prepared to say that it ought not to be dealt with, my desire was mainly to get a Bill passed which would strike at the great abuses in the trade; and I knew from the important interests involved in the coasting trade with the United States, it would simply add more opposition to the passage of the measure than that already created. And again, I felt that there was a very great difference between the dangers to be avoided in the two classes of trade; that to the West Indies was a long voyage—an open sea voyage—and one in which they could not do as they can in the coasting trade to the United States, viz: make harbour any time within two or three hours. Therefore, I concluded that, as the statistics which I have been enabled to gather did not show a very large percentage of loss of life in the American trade, and as the facilities—perhaps the best in the world—for running into harbour along that coast are so great, it was not desirable either to create unnecessary obstructions or to cause further opposition to the passage of this Bill than that which already exists, and which I admit, is of great weight and importance. It will be observed that the present Bill limits the power of unscrupulous men, and affects the profits they can make at the sacrifice of human life, but does not interfere with the honest shipowner, inasmuch as the four and one half feet allowed in the West India trade is more than a fair average of the deck loads which, without any legal restriction, conscientious shipowners even now permit, and that the business of the fair trader will be but little affected by it; and besides, there is something in the position assumed by the Council of the Board of Trade of St. John, viz: that until the American Government legislate in a similar way, it would be unwise to place our own people at a great disadvantage in pursuing that trade. It may be alleged that the same argument will apply to the West India business. My answer to that is, that in that trade I have actual statistics, amounting to positive proofs, of the enormous loss of life resulting from excessive deck-loads; while in the other, though accidents occur and danger exists, the fatal casualties have been much less frequent. The remedy I propose upon the latter point in connection with our trade with the United States is, that the attention of the British Government should be called to this question, and that they should be asked by the Government of Canada to bring the action of our own Parliament under the notice of the American Government, and invite legislation in the direction which this Bill proposes, with the view also of restricting and regulating deck loads in relation to the existing trade. And I do not doubt that when so enlightened a people as the Americans are, see the necessity of adopting some, if not exactly the same, remedy that we have proposed, they will take such measures as seem to

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them just and right to protect life and property, without materially affecting the prosecution of that trade.

When the propositions of this Bill were discussed in Parliament, prior to its being referred to this Committee, several objections were presented by the gentlemen who so ably opposed it. I will notice these in detail, with a view of satisfying the Committee as to the amount of reliance to be placed upon them. It was stated by the hon. gentleman, the member for the County of St. John, Mr. Burpee, that no evidence had been adduced in support of the position that heavy deck-loads involved loss of life, and it was claimed by that hon. gentleman that the class of vessels which carried on the trade with the West Indies was built expressly for that trade, and it was expected in their construction that they should be fitted for carrying deck-loads, and that they were unlike the ships which carried on the St. Lawrence transatlantic trade, many of which were old, rotten and condemned vessels.

Now, in reply, let me say that I think the hon. gentleman has not given the subject that attention, nor perhaps had at his command the means of information, which I have endeavoured to secure, and which would have enabled him to judge with the same accuracy. Let me read for the information of the Committee, the summary of casualties to vessels sailing from St. John, N.B., to the West Indies, caused by deck-loads during the past few years; and I may say that I do not pretend that these are all the casualties that have occurred, nor that they are even a very considerable proportion of them, as I do not anticipate so much opposition to this measure, which, in my opinion, is so liberal to the shipping interests, and I am, therefore, not so well fortified by the facts as I might otherwise have been, but, Sir, the list, defective as it is, is an appalling one. By this it will be seen that that gentleman is in error when he alleges "that comparatively few lives have "been lost in the trade, and that the percentage of loss of life in the West India deck-"load business is as small as that in any other trade conducted on land."

SUMMARY of casualties to vessels, occasioned by deck-loads, during the past few years while sailing from St. John, N.B., to the West Indies.

1. Brigantine *Evergreen;* waterlogged, deck-load carried away, vessel condemned.
2. Bark *Minnie;* one man washed off deck-load and lost.
3. Brigantine *Active;* lost deck-load, and otherwise damaged.
4. Brigantine *Mohawk;* hove on beam ends, righted on throwing over deck cargo.
5. Brigantine *Osprey;* lost part deck-load; a man named John Alcocks washed overboard and drowned.
6. Brigantine *G. A. Coonan;* a seaman lost off deck-load.
7. Bark *Edward Cecil;* thrown on beam-ends, waterlogged and abandoned. Carpenter washed overboard. Rest of crew exhausted pumping.
8. Brigantine *Fawn;* deck-load lost. Crew lived on top of house till the vessel reached Nassau full of water.
9. Brigantine *Delano;* put into Norfolk full of water, and sold.
10. Brigantine *Let Her B;* total wreck on Pacific reef.
11. Brigantine *Ella;* heavy deck-load shifting, had to put into port.
12. Brigantine *Marino;* leaking, deck-load thrown overboard.
13. Schooner *Unexpected;* waterlogged.
14. Brigantine *Mary Givan;* deck-load lost, leaking.
15. Brigantine *Southern Cross;* stranded with heavy deck-load. Waterlogged and lost deck-load, water casks, &c. Crew nine days on deck starving. Killed ship's dog. Rescued.
16. Schooner *Alsatia;* picked up derelict. Crew all lost. Enormous deck-load washed off, taking crew with it.
17. Brig *Birdie;* never heard of.

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18. Brigantine *Mary Kelly;* having heavy deck-load, became waterlogged. Crew rescued by passing vessel.

19. Schooner *Nanta;* waterlogged, abandoned. Crew landed.

20. Schooner *Ambro;* unmanageable through heavy deck-load. Total loss.

21. Bark *Ida E;* deck-load lost. Crew's life imperilled. Captain attributes disaster to excessive deck cargo. $9,000 to repair.

22. Schooner *Minnie;* heavy deck-load. All lost. Never heard of.

33. Schooner *Carrie Douglas;* waterlogged and unmanageable. Repairs cost over $4,000.

24. Brigantine *Bessie;* unmanageable and driven on rocks. Captain washed overboard and drowned; crew barely escaping with their lives.

25. Brigantine *John Lewis;* heavy deck-load washed away. Crew had a narrow escape.

26. Brigantine *Martha;* drifted ashore derelict. Part of deck-load gone, which was unreasonably large. Crew been evidently washed overboard and had perished.

27. Brigantine *Phœbe Ellen;* encumbered with heavy deck-load which had frozen. Crew unable to relieve the vessel. Captain and two or three of the hands perished.

28. Schooner *Charles A. Bovey;* heavy deck-load of shooks. Sprung a leak. Two men died from over-exertion and exposure in keeping vessel from sinking. Rest of crew completely worn out. Towed into port, shipped new crew, proceeded on voyage. Result not yet known.

29. Brig *Scud;* high deck-load. Became total wreck.

30. Brig *Victoria;* deck-load three feet higher than main rail. Waterlogged. Crew rescued. Over-lading cause of disaster.

31. Schooner *Bessie Black;* high deck-load. Part of it lost, carrying a man with it, who was drowned.

As to the difference in the character of the vessels engaged in the West India and transatlantic trade from the Bay of Fundy, I freely admit there is something in what the honorable gentleman states, but, under any circumstances, and admitting his premises, there still stands before me the list of casualties I have just read, which applied not to the St. Lawrence trade, but to that of the West Indies, from the Bay of Fundy. But he has asked greater latitude and exemption than was claimed by the delegates who represented the Board of Trade of his city. The delegates of that Board attended the Conference of the Dominion Board of Trade at Ottawa, and when stating their objections to the deck-load law, contended not against the limitation on the transatlantic deck-load law, but asked only to have their West India and American coasting trade excepted, and they then contended not against the principle of the deck-load law, as is now done, but claimed that until a similar law was adopted in the United States, the trade from their ports was placed at a disadvantage, and, therefore, should not be interfered with. Now honourable gentlemen ask that the passage of the Bill may be postponed, and contend that there is no reason why any prohibition should be placed upon the trade of the Port of St. John, because, as they allege, the vessels are of a different class from the St. Lawrence vessels. It may be that the gentlemen are right in their views in relation to the staple character of the vessels of New Brunswick and Nova Scotia, and I fully endorse the high character given them—but that does not alter the fact that the experience of years has shown that accidents innumerable have occurred in other ports besides those of the St. Lawrence, arising from the carrying of deck-loads, and that even when vessels are strong and seaworthy, an excessive deck-load is dangerous. And it must be recognized that although the position of merchants may be affected, (a positive evil like that I have described in the West India trade having been so conclusively proved as I have proved it to exist), we cannot permit any consideration to stand in the way of a measure for the security of life, and for lessening the number of accidents. In other words, the first duty of Parliament in this question should be to secure the life and safety of the seamen, and then to consider questions of trade.

That very many of the ships trading from the St. Lawrence defective, aged, and

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unfitted for the business, have deck-loads put upon them, simply aggravates the evil, and is an additional reason why the Act should pass; but is no argument why St. John trade with the West Indies should be exempted. I presume it will not be disputed, after the evidence which I have adduced, that serious casualties do occur from overloading.

I would remind the honorable gentleman from St. John that, in going beyond what the Board of Trade asked in January last, and that in now asking this Committee to reject that portion of the law referred to affecting the trade of St. John, on the broad ground that no necessity exists for any deck-load law from that port, I believe he scarcely represents the general sentiment even of his own city, and I would beg to say, when he tells this Committee that there is no public sentiment calling for such a measure, and that no such measure is necessary, that I think the honorable gentleman is wrong. I have already produced ample evidence to show the necessity for the measure, and I now assert that there is a public sentiment loudly demanding some security against the enormous loss of life which has arisen in this trade. One of the leading, if not the foremost of marine agents for New Brunswick, submitted in March last, an able paper, addressed to myself, upon the subject of the trade of St. John in connection with the deck-load question, which, with the permission of the Committee, I will read:

DECK LOADS.

To the Hon. Peter Mitchell,
Minister of Marine and Fisheries, Ottawa.

SIR,—At a recent meeting of the Saint John Board of Trade held in this city, the delegates who had just returned from the third annual meeting of the Dominion Board of Trade, held at Ottawa on the 16th and 17th of January ultimo, reported among other matters as follows:—

"That the next resolution your delegates felt called upon to take an active part in, "was subject Nineteen. The propriety of prohibiting by statute the carrying of deck-"loads after a certain date, which was, in fact, the re-enacting of the deck-load laws of "years ago, and while the same might apply with equal fairness to ourselves and foreigners "in the carrying-trade to Europe, it might place us on unequal terms with the carriers of "the United States, with whom we are in continual competition in the coasting trade, "the trade to the West Indies and South America; and upon the case being fully "explained to the Board, the mover, the Chairman of the Board, Mr. Fry, confined his "resolution as follows: That this Board strongly urges upon the Government of "the Dominion the necessity of immediately putting a stop by legislation to the "carrying of deck-loads between Canada and Europe after September and before the first "of May in each year, as being destructive to human life, and materially increases the cost "of insurance. Carried."

Subsequently, the following papers were read by the Secretary of the Board:—

OTTAWA, 17th June, 1872.

SIR,—I have the honour to enclose herewith copy of despatch with enclosures from the Secretary of State for the Colonies, which has been referred by the Honourable Privy Council to this Department, in reference to the number of casualties occurring to vessels conveying deck-loads of timber and shooks between North American Ports and the West Indies; and I am to request that you be kind enough to submit it to the Board of Trade for their information, and at the same time inform that body that this Department will be glad to be favoured with their views on this important subject.

I have the honour to be, Sir,
Your most obedient servant,
WM. SMITH,
Deputy of Minister of Marine, &c.

A. C. Fairweather, Esq.,
Secretary, Board of Trade,
St. John, N. B.

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The Secretary of State for the Colonies to the Governor General.

(Copy—Canada, No. 108.) DOWNING STREET, 7th May, 1872.

MY LORD,—I have the honour to transmit to your Lordship, for communication to your Government, a copy of a letter from the Board of Trade, enclosing copy of a a despatch from Her Majesty's Consul at Havana, calling attention to the number of casualties occurring to vessels conveying deck-loads of timber and shooks between North American ports and the West Indies.

I have, &c.,

Governor General, (Signed), KIMBERLEY.
The Rt. Hon. Lord Lisgar,
G.C.B., G.C.M.G., &c., &c., &c.

Mr. Gray to the Under Secretary of State, Colonial Office.

(Copy—M. 4758.) BOARD OF TRADE, WHITEHALL GARDENS, 3rd May, 1872.

CASUALTIES.

SIR,—I am directed by the Board of Trade to transmit to you, for the information of the Secretary of State for the Colonies, the accompanying copy of a despatch from Her Majesty's Consul General at Havana, calling attention to the number of casualties occurring to vessels conveying deck-loads of timber and shooks between North American Ports and the West Indies.

The Board of Trade desires me to suggest for Lord Kimberley's consideration, whether, as it appeared that a considerable portion of the trade is carried on from the British Provinces, especially between St. John, New Brunswick and Cuba, it would not be desirable to bring the contents of this despatch under the notice of the authorities of the Dominion of Canada.

I have, &c.,

The Under Secretary of State, (Signed), T. GRAY.
Colonial Office.

Mr. Consul General Dunlop, to the Secretary, Marine Department, Board of Trade.

(Copy.—M. 4748.) HAVANA, 3rd April, 1872.

SIR,—I think it my duty to call the attention of the Board of Trade to the number of casualties occurring from the practice of carrying deck-loads of timber and shooks between North American Ports and the West Indies.

A very considerable trade is now carried on from the British Provinces, especially between St. John, N. B., and Cuba; and scarcely a vessel arrives here without losing a portion of her cargo, or experiencing damage on the voyage, owing to their carrying heavy deck-loads of planks or of shooks.

I understand that most of their cargoes are insured in the United States, and that the premium charged on deck-loads is high, say from 10 to 15 per cent, but from the almost constant losses which are reported, it occurs to me that there is something wrong in the practice, and that many vessels are overloaded, and consequently not only run an extraordinary risk as regards both ship and cargo, but endanger the lives on board.

I am not aware whether such vessels, when laden and ready for sea, are inspected by Port Wardens or by the underwriter's agents, but if such is not the case, it appears to me very necessary, and that there should be some stringent regulation on the subject of deck-loads generally.

(Signed), A. GRAHAM DUNLOP,
Consul General (Cuba.)

The Secretary Marine Dept.
Board Trade, London.

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The writer was present at the meeting in St. John above referred to, and complimented its delegates for the general ability they displayed as representatives of this Board. He expressed full approval of their suggestion in reference to "*deck-loads*" *of vessels coasting* between ports in New Brunswick and ports in the United States, stating generally that the class of tonnage engaged in the carrying trade between ports in the Lower Provinces and ports in the United States north of Hatteras, was particularly adapted for bearing the burthen of heavy deck-loads, being fore-and-aft schooners specially constructed for such trade. They are mostly shallow vessels, with great breadth of beam, their dimensions averaging a depth of hold of from seven to eight feet, with a breadth of beam of from twenty-seven to thirty feet, fore-and-aft rigged, and calculated to carry, in many cases, much over *one-third* of the whole cargo upon deck; and that while other classes of vessels are occasionally employed in this coasting trade, that it would not, in his opinion, be expedient to make any regulations with reference to this particular trade, nor with that to ports in South America at present, the description of cargo taken to the latter country being, as a rule, long dry lumber of superior quality which makes a buoyant cargo. The voyage, too, being much longer than to the West Indies, the deck-loads as a rule are kept within the bounds of safety. As to the coasting trade, there are many harbours on the way, and vessels put in for refuge at the approach of a storm, thus escaping the dangers of deep-sea voyages.

From the foregoing and other circumstances, the writer argued that it was obvious the true policy should be to hold legislation upon these matters in abeyance until the same had been the subject of a joint and uniform arrangement between the United States and Canada. But with regard to the shook and lumber trade between ports in the Lower Provinces, especially the Port of St. John and the West Indies; he added, that in his opinion, derived from observation and experience in the matter, the official statement made by the Consul at Havana, was in perfect accord with the facts.

On discussion the Vice-Chairman admitted the correctness of the representations made by Consul General Dunlop. The St. John Board of Trade, however, seemed adverse to taking any decided action, being hampered to a certain extent by individual interests, which plead the competition of foreign tonnage as the ostensible reason of delay, but action is really deferred by members of the Board who are shippers or ship-owners wishing to be free and unrestricted to secure deck freights as heretofore.

It is therefore absolutely necessary, for the preservation of life and safety of property, that the Government of Canada proceed in the matter, for the following reasons:

1st. As to the business.—The trade between ports in the Lower Provinces of Canada and the West Indies is rapidly increasing; in fact the shook and lumber supply to those islands is mainly procured from these Provinces. The description of lumber manufactured in the United States being very valuable, is almost entirely for other markets, as the quality required in the West Indies, although merchantable, is not No. 1; the boards being chiefly what is called shippers, and the poorer kinds of lumber stock are worked up into shooks. The material for the manufacture of such boards and shooks is more readily obtained in the Provinces, and the cost of manufacture much cheaper, for shooks are frequently sold at St. John, N.B., to merchants in Portland and Boston for re-shipment from those ports. These Provinces have, therefore, enjoyed the monopoly of exporting lumber to the West Indies, so that the minute of the Board, as follows, might very properly have been made more definite: "That the Board having had before it the "letter from the Deputy of the Minister of Marine and Fisheries, on the subject of deck "loads, desires to thank that Department for communicating to the Board a matter of so "much importance to the trade of this port. The Board admits that the evils complained "of exist to a great extent, but as the Port of St. John has to compete with ports in the "United States, in the lumber trade, and would be placed under a disadvantage by "having restrictions placed on its shippers, not applicable to those of rival ports, the "Board feels that it cannot recommend a change unless similar action be taken in rival "ports."

2nd. As to the class of vessels.—The class of vessels employed in this trade

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are chiefly small barques, brigs or brigantines, and schooners, having a depth of hold of ten feet and upwards, so as to stow three tiers of hogsheads of molasses on the return passage. These vessels are entirely different from coasters, being of deep and comparatively narrow model, with the requisite dimensions for carrying dead weight or under deck cargoes.

AMONG THE ABUSES OF THE DECK-LOAD SYSTEM ARE—That owners or charterers now pile on deck-loads without let or hindrance, thus increasing the risks run by vessel and crew. The cargoes are wet and icy, sugar box shooks or unseasoned lumber, and if such cargoes are piled above the rail, as is always done, more or less, they are more trying upon the vessel than even a full cargo of dead weight, for the heavy deck-load destroys the trim of the vessel and interferes with her proper handling, the crew being deprived of the protection of bulwarks, &c.; then, when stormy weather is experienced, the excessive weight on deck makes the vessel tender, opens her waterways, seams and stanchions, strains the topsides or throws the vessel on her beam ends, when she is apt to become waterlogged, as the water running along the bilge while the vessel is hove down cannot be reached by the pumps, (there being no bilge pumps in this class of vessel), thus the overloading is the primary cause of many disasters.

The loss of property involved in this state of things would be a sufficient warrant for restrictive legislation; but when the loss of life occasioned thereby is considered, it is confidently hoped that the Government will feel impelled to pass a measure which will in future effectually prevent the over-loading of vessels trading to the West Indies, and which will protect our seamen from dangers imposed on them, other than the unavoidable perils of the seas.

AS TO THE LOSS OF LIFE.—The following are a few of the cases of disasters, directly or indirectly caused by excessive deck cargoes, in which all or a portion of the crew lost their lives.

The brigantine *Bessie*, of St. John, N.B., Tobin, Master, sailed from this port in February, 1868, for Cuba. The vessel was overladen to such an extent, that she became waterlogged and unmanageable shortly after leaving port, she was rendered unseaworthy by having on board a greater number of shooks than she could possibly carry in stormy weather and was compelled to put back; but being in such an unmanageable state she could not make the harbour in safety, but was driven at the mercy of the winds and waves and forced on the rocks at Courtney Bay. Capt. Tobin was washed overboard and drowned before the vessel stranded, and the others barely escaped with their lives. There was a great outcry raised at the time through the press, and a strong feeling in the community for preventive legislation; for a short season the deck-loads were more moderate, but now the practice is just as dangerous as before, and until a Government enactment is passed, the like is liable to happen at any time during the shipping season.

The brigantine *John Lewis*, sailed hence on 10th November, 1869, for Havana. She was boarded by a sea that washed off the deck-load which from its weight had forced the deck open; the crew narrowly escaped.

The brigantine *Martha*, of St. John, N.B., sailed hence for Cuba on 11th January, 1870, and drifted ashore derelict a few days later at Meteghan, N.S., with part of deck-load gone and a signal of distress flying; she too had a most unreasonable deck-load, and judging from the appearance of the vessel, it was evident it was the main cause of the disaster which followed, and that the crew had been washed off the deck-load; they all perished.

The brigantine *Phœbe Ellen*, cleared on the 5th January of the following year for Havana, and meeting a heavy gale almost immediately after leaving port, sprung a leak, became unmanageable, being encumbered by a very heavy deck-load which the crew tried to throw overboard and relieve the vessel; but it was frozen fast together and could not be removed, the vessel was driven across the bay, going ashore near Digby, N.S. Captain Dill and two or three of the hands perished.

Such sad cases are recurring again and again, and call earnestly for immediate action. The preservation of life is of paramount importance; and the safe carriage of property is also a consideration. I would, therefore, suggest THAT A STATUTE BE ENACTED

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REGULATING THE CARRIAGE OF DECK-LOADS FROM PORTS AND PLACES IN CANADA TO THE WEST INDIES, as follows :—

1st. *That all single-decked vessels be prohibited from loading or carrying deck cargoes above the main rail of the vessel.*

2nd. *That all vessels with spar decks be invariably restricted from carrying any cargo whatever on their spar deck.*

3rd. *That a thoroughly competent and reliable Inspector be appointed at each port of clearance to survey vessels while loading, and see that the cargoes are properly stowed—that the Government regulations as to deck-loads are faithfully observed and carried out, and that the vessels are in a seaworthy condition at their departure,—his certificate to be produced on clearing the vessel at the Custom House.**

Many years ago, it was found that vessels sailing from ports in Great Britain, were frequently overladen with iron, and foundered in consequence. On the matter being brought to the notice of the Government, a regulation was at once made limiting the quantity of iron to one-third in excess of the vessel's registered tonnage, and now iron is carried with comparative safety.

The same remarks apply to grain, which was formerly shipped from United States ports in bulk, to Europe, but many vessels were lost or damaged in crossing the Atlantic, by reason of the cargo shifting; and notwithstanding the United States were in competition with rival Baltic ports, the American authorities promptly acted in the matter, making the loading of grain subject to inspection, and now one-third of the cargo must be put in bags, and the vessel fitted with shifting boards, according to law.

The writer is not speaking from an insurance standpoint, for he has long since satisfied himself that risks of this character, viz. :—endangered by heavy deck loads are unsafe, undesirable and unremunerative to underwriters; but he is induced to submit the result of his observations to the Government, in hopes that some such statute as above referred to will be made law, for the preservation of the lives of the seamen sailing from Canadian Ports, and for the welfare of those depending upon them; as well as for the protection of all who engage in the West India trade of the Dominion and are interested in its Maritime prosperity.

I have the honor to be,
Yours respectfully,

ROBERT MARSHALL,
Marine Insurance Agent and Attorney for New Brunswick Lloyds Association of Marine Underwriters.

From this it will be seen that Mr. Marshall after stating the position very fully, and arguing it very ably, asks that a statute very similar to that contained in the Bill before the Committee, be enacted, regulating the trade between Canada and the West Indies, and further, that an agent be appointed—"and Government regulations made"—to see the measure carried out at the Customs office before the clearance of vessels. Now, it will be observed that the Bill contains no provision for inspection. The opponents of the Bill, however, stated that they would rather desire a measure which provided for the appointment of Inspectors, than for fixing a limit to the deck load. To this I answered then, as I answer now, that I considered in the interests of trade that it was better to place fixed limits to the deck loads, which would at the same time promote safety to life, than to have at each port an official as inspector who, if he chose to act in an arbitrary manner, might harass and annoy the trade. Again, if these officers were appointed somebody would have to pay them, but if the honourable gentleman asks for the appointment of a staff of officers, I can see no objection to inserting a clause to that effect in the Bill now in the hands of the Committee. Do not let us shut our eyes to the truth, but rather look

* Many of the vessels engaged in the West India trade are provided with light spar decks, that is to say, from ten to twelve feet depth of hold, and from four to five feet between decks. Such vessels should never attempt to carry cargo upon the spar deck, but they frequently do so, although it is simply carrying a deck load on top of a deck-load, and it is not surprising that the most serious consequences ensue.

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the facts in the face, and if the abuses of the trade make the appointment of these officers necessary, the trade must stand the cost as well as the inconvenience that may result there from, and we must have them; but it is the abuse of the system that has brought about the necessity for legislation, and for my own part, in the interests of the trade, I consider that the Bill under consideration is far more favourable than the principle of inspection, for which my honourable friend contends; but should he prefer assuming the responsibility of urging inspection for the trade, to meet abuses which he claims that this Bill will not cover, I have prepared a section which provides for inspection at such ports as the Government may proclaim, and which would include the Bay of Fundy ports. I now place it before the Committee and am prepared to engraft it in the Bill to meet the trade views represented by my honorable friend, should he assent to it; but in thus meeting his views I place upon him the responsibility of putting what I consider to be an additional restriction on the trade of his port.

[Here the honourable gentleman read the provisions of a clause providing for the appointment of an inspector or inspectors for such proclaimed port, whose duty it should be to examine, during the season, the loading and equipment of such vessels as are engaged in the trade, and without his certificate the officer of Customs was prohibited from clearing the vessel.]

Mr. Burpee was here understood to say that he would not take the responsibility of accepting the principle of inspection, and as several other gentlemen expressed a strong feeling of opposition to it, but were at the same time advocating the measure as it stood, the Honourable Minister withdrew it, and stated that while he did not urge to have it engrafted in the Bill, he felt it to be his duty, when the gentlemen from St. John put forward such an alternative, to give them the option of accepting or rejecting it. He would not press its adoption because he did not believe it would be the most desirable course, nor did he believe it was one calculated to satisfy the trade, nor one that offered the best protection to life, though it may be that in the future, inspection may be necessary arising out of abuses in other than the lumber trade. The paragraph was then withdrawn.

The Honourable Minister then proceeded to observe that it has been further objected against the Bill that it is not comprehensive enough, and the honourable gentleman to whom I have referred has stated that inasmuch as the subject having been brought under the notice of the Imperial Parliament by Mr. Plimsoll, a Royal Commissioner having been appointed to examine into the abuses not only of the deck-load but of other questions relating to shipping, this measure should not now be passed but should be permitted to stand over until we see the result arrived at by that Commissioner, or that we ourselves should appoint a committee to act with that commission with a view to obtain information and consider the question.

The Honourable Minister stated in reply that the cases referred to in England and those of our trade were entirely different. The question of deck-loads formed a very small branch of the list of grievances of which Mr. Plimsoll complained, and which has been particularly under the consideration of the British House of Commons, and that in the appointment of the Commission referred to, it is clear the question was far beyond that contained in this Bill. That no very serious complaints were made against ships owned in our country; that they are generally assumed to be of a good class, and according to the statements of my honourable friend, the trade from Quebec and other ports of Old Canada is mainly carried on in a very different class of vessels from those sailing from his own port, and the same objection did not apply to the St. John trade. Looking at the mass of evidence I have submitted to this Committee, let me ask, is it necessary, in order to arrive at a conclusion as to the propriety of restricting deck-loads that a Commission should be issued? I do not think so; but if he desires to go further and place a supervision on all ships and cargoes, and wishes a commission to examine evidence for that purpose, the passage of this Bill will not prevent it, and in the meantime a crying evil will be remedied if the Bill passes. Let me say to my honourable friend that I thought it due to him and to the important interests he represents thus to refer to his views in relation to the Commission, previous to the passing of this measure, in order that it might not

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operate against, or interfere with the inquiry which my honourable friend professes an anxiety to obtain. But if his suggestion is carried, and if this growing evil is permitted to continue for another year, delay may then perhaps be asked for by some one else on some other ground, and with just as much reason.

Whether public opinion demands the total prohibition of deck-loads, as some members of the Committee have contended, or whether my honourable friend in resisting the limitation represents public opinion in relation to deck loads, I think there can scarcely be a doubt that some measure is required. Let him look at the report of Boards of Trade, and he will find that year after year they have asked for prohibition of all deck-loads. Let him look at the resolution of his own Board of Trade, and he will find the importance of the principle recognized so far as the trans-atlantic trade was concerned, and he should not hesitate as to the inexpediency of further delay.

I would now, with the permission of the committee, read two despatches, respectively dated 27th February and 27th March, 1873, from Earl Kimberley to His Excellency the Governor General, upon the same subject. The former of these covers a list of casualties and a return of timber-laden vessels reported to the Board of Trade up to the 7th January, 1873, as having been lost or damaged during the month of November, 1872.

[Here the Honourable Minister read the despatches and the list of casualties appended hereto.]

No. 57.

DOWNING STREET,
27th February, 1873.

MY LORD,—I have the honour to transmit to you, for communication to your Government, a copy of a letter from the Board of Trade, with enclosures relative to the casualties which have recently happened to vessels in the American timber trade, owing, as is alleged, to the carrying of deck-loads during the winter months.

I shall be glad to learn the views of your Ministers, and to receive any suggestions which their knowledge of local circumstances may enable them to offer upon this important subject.

They will, I feel sure, gladly assist in giving effect to any practical measure which may be devised to lessen the number of casualties of this description.

You will be so good as to return to me Mr. Smith's report, dated in December, 1860, which is forwarded to you in original.

I have, &c.,
(Signed), KIMBERLEY.

Governor-General
The Right Honourable
The Earl of Dufferin,
K.P., K.C.B., &c., &c., &c.

Mr. Farrer to the Under Secretary of State, Colonial Office.

Copy.

BOARD OF TRADE,
WHITEHALL GARDENS, 14th Feb., 1873.

DECK LOADS IN TIMBER SHIPS.

SIR,—The attention of the Board of Trade has been called to the dangers and losses which have arisen from the deck-loads of timber ships in the American trade during the winter months.

The Secretary of State is probably aware that before the year 1862 there were enactments in force (16 & 17 Vic., cap. 107, sections 170, 171 and 172) prohibiting the carriage of deck-loads in timber ships clearing from the British North American Colonies to the United Kingdom, from the first of September to the first of May.

It was possible to some extent, at any rate, to enforce these enactments before the repeal of the navigation laws, because a British ship with a British cargo clearing from

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the Colonies for the United Kingdom, had an advantage over a foreign ship with a foreign cargo clearing from the United States, consequently the trade was confined to British ships engaged in the Colonial Trade, carrying Colonial cargoes, and cleared directly from the Colonies to the United Kingdom, and such ships could be stopped in the Colony if they evaded the law. But after the repeal of the navigation laws, there was nothing to prevent a foreign ship, *i. e.*, an American ship, carrying on the timber trade between the Colonies and the United Kingdom, or to prevent a British ship from carrying United States timber to the United Kingdom, or clearing to the Colonies from a foreign port, and thence changing her destination to the United Kingdom. As a matter of fact, ships used, subsequently to the repeal of the navigation laws, to clear from the United States' side of the river which separates New Brunswick from Maine, in order to evade the British deck-loading law.

Experience had also shown how difficult, if not impossible, it was to enforce the law by any proceedings on this side of the Atlantic.

Under these circumstances, the enactments above referred to were repealed by the Merchant Shipping amendment Acts, 1862, 25 and 26 Vic., c. 63, s. 2.

It is obvious, under the above circumstances, that any effectual legislation on this subject must deal with ships at their port of departure in America, and that it must deal with ships clearing from the United States ports, as well as with ships clearing from ports in the British Colonies. It is also clear that the evils in question affect ships bound from those countries to countries other than the United Kingdom, and that to be complete, legislation ought to deal with all ships carrying timber across the Atlantic, whatever their destination. It is further clear that laws of this description cannot now be passed in this country, either for Canada or for the United States, and that they ought to be framed in concert, on a common basis by the Government of Canada and the United States.

Under these circumstances, I am to request you to move the Secretary of State to call the attention of the Government of Canada to this subject, and to suggest to that Government the expediency of enquiring whether any measures can be devised for preventing such frightful losses of life and property as have recently occurred.

I enclose a list made out from the returns of the Board of Trade of casualties which occurred during the last two months of last year (1872) in this trade.

I also enclose copy of a letter dated 11th December 1860, from Mr. William Smith, then Comptroller of Customs and navigation of the Port of St. John, now the Deputy Minister of Marine and Fisheries for the Dominion of Canada, containing a complete statement concerning the operation of the law as it then stood.

A copy of this letter has been sent to the Foreign Office.

I have, &c.,

T. H. FARRER

The Under Secretary of State,
Colonial Office.

By this list above referred to and annexed hereto, it will be seen that out of 72 vessel lost and damaged, 29 of them were totally lost and 43 damaged; that there were 67 live lost, that 48 of the vessels had deck-loads, 11 of them were without deck-loads, and 13 in which it was not known whether they had deck-loads or not. The remarks of the forwarding officer refer to the nature and the cause of the casualty, and will speak for themselves.

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RETURN of Timber Laden Vessels reported to the Board of Trade up to the 7th January, 1873, as having been Lost or Damaged during the months of November and December, 1872.

Name of Vessel and Date of Casualty.	Port of Registry.	Tonnage.	Age.	Crew.	Cargo.	Port Sailed from.	Port Bound to.	Lives Lost.
Queen of the West....6-11	Waterford	1,432	29	24	Timber	Quebec	Belfast	—
Maggie....11-11	South Shields	846	30	16	do	do	Grimsby	—
Chance....3-11	Liverpool	972	18	21	do	Pensacola	Sunderland	—
Darien (S.S.)....18-11	do	864	9	35	Staves, cotton, &c	Savannah, Ga.	Liverpool	—
Morgan....8-11		312	1	9	Timber	Richibucto	Bristol	—
Polly....14 11	Greenock	671	27	14	do	Quebec	Beaumaris	—
Express....24-11	North Shields	711	18	15	Deals	do	London	—
White Crest....24-11	London	1,061	20	19	Wood, 1,550 tons	do	Shields	—
Western Empire....19-11	do	1,245	10	22	Timber, 1,600 tons	do	Bristol	1
Balkeith....17-11	Greenock	848	14	18	do 1,056 loads	do	Cardiff	—
Morning Star....12-11	St. John, N.B.	285	10	8	Deals	St. John, N.B.	Dundalk	—
Jardine Brothers....19-11	Miramichi	523	2	14	Deals and Timber	Dalhousie	Liverpool	4
Champion....19-11	Troon	741	34	21	Timber	Quebec	Greenock	—
Oriental....28-11	Cardiff	654	26	16	do	do	Cardiff	1
War Spirit....30-11	St. John, N.B.	1,234	18	22	Deals	St. John, N.B.	Liverpool	1
Uiah....22-11	Stockton	341	31	7	Timber and Deals	Buctouche	Swansea	—
Freide....5-11	Glasgow	572	40	17	do	Quebec	Port Glasgow	—
Mangerton....21 11	do	979	22	22	do	do	Greenock	—
Manuelon....19-11	Aberdeen	737	16	17	do	do	do	—
Dauntless....8-12	Annapolis	396	1	8	Wood	Dalhousie	Bristol	—
Kashagore....11-11	Cardiff	654	19	15	Deals, &c	Quebec	Highbridge	7
Ulinia....23-11	Plymouth	1,198	18	24	Timber	do	Bristol	8
Zetland....26-11	London	1,131	30	27	Deals	do	London	—
David Cannon....20-11	Pictou	577	9	10	Timber	Miramichi	Liverpool	—
Charles Ward....10-11	Newcastle	805	18	20	do	Quebec	Sunderland	11
Saugeen....25-11	Sunderland	481	16	13	Wood	St. John, N.B.	Bristol	—
City of Manchester....29-11	Quebec	1,115	23	24	do	Quebec	Greenock	—
Kaffir Land....20-11	Aberdeen	753	21	17	Timber	do	do	—
Island Green....29-11	Newport, Mon.	376	6	9	do	Miramichi	Liverpool	—
Julia....1-12	Liverpool	973	21	20	do	Quebec	do	—
Pride of the Ocean....30-11	South Shields	1,372	16	25	Deals	do	London	—
Indian Queen....29-11	Liverpool	952	20	22	Timber	do	Liverpool	12
Josephine....21-11	St. John, N.B.	470	9	11	Wood	Miramichi	Glasgow	1
Lady Havelock....9-12	Liverpool	855	14	18	Timber and deals	Quebec	Hull	—
Lavas....3-12	Bristol	824	32	20	Wood	do	Bristol	—
Lady Seymour....19-11	Liverpool	936	30	18	Timber	do	Sunderland	—
Lesbia....1-12	Newcastle	1,203	17	22	Timber and deals	do	Grimsby	—
Zarah....9-12	Glasgow	365	26	11	Wood	Miramichi	Gloucester	—

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RETURN of Timber Laden Vessels.—*Continued.*

Name of Vesse and Date of Casualty.	Port of Registry	Tonnage.	Age.	Crew.	Cargo	Port Sailed from.	Port Bound to.	Lives Lost.
Rosina 13-12	Poole	634	27	17	Timber	Quebec	Dartmouth	2
Harda 23-11	St. John, N.B.	259	7	8	Shooks	St. John	Cardenas	—
Louisa 10-13	London	903	12	17	Deals and timber. ..	Quebec.	Dundee	4
Dakotah 22-11	Fleetwood	892	22	21	Timber	do	Liverpool	—
Cardross 5-11	Greenock	568	18	16	Mahogany and cedar.	Honduras	Falmouth	—
Osprey 29-11	Hull	745	27	17	Wood	Quebec	Bristol	1
Sparkenhoe 29-11	London	1,253	7	24	Deals.	St. John, N.B.	Liverpool	—
Sir Charles Napier 8-12	Truro	513	18	15	Wood	Quebec	Bristol	—
Assyria 18-11	Newcastle	1,357	18	20	Timber	do	Plymouth	1
Huano 19 11	Aberdeen	843	22	18	do	do	Greenock	—
Home 29-11	Yarmouth	1,271	11	22	do	do	do	2
Victory 18-11	Newcastle	752	16	16	Timber and deals. ...	do	Leith	—
Frenchman 19-11	Grangemouth	1,115	15	23	do	do	Greenock	1
Madge Wildfire 7-11	Liverpool	845	18	17	Wood	do	South Shields	1
Mont Blanc 7-11	Barrow	681	16	14	Timber	Miramichi	Barrow	—
Chieftain 17-11	Lancaster	492	33	16	Timber and deals ...	do	Lancaster	—
Redan 24-11	London	859	17	18	do and staves ...	Quebec	London	—
Bessie Young 39-11	Liverpool	322	16	10	do	Richibucto	Whitehaven	—
Jamaica 20-11	Glasgow	421	18	11	Logwood, Lignum Vitæ	Jamaica	Liverpool	—
Landre 29-11	North Shields	713	15	15	Deals	Quebec	London	—
Arethusa 19-11	Sligo	339	18	11	do	Matane	Sligo	—
Commodore 18-11	Aberdeen	562	11	17	Timber	Quebec	Aberdeen	—
Lothair 2-12	London	624	21	15	Deals	Miramichi	Gloucester	—
Illustrious 1-12	Liverpool	1,172	19	21	Timber	Quebec	Liverpool	—
Alexandria 22-11	Maryport	382	32	12	do	do	Maryport	1
Eastern Province 23-11	Glasgow	377	14	10	Bark and molasses ..	Philadelphia	Glasgow	—
Ailsa 7-11	Ayr	468	10	13	Deals	St. John, N.B.	Ayr	—
Sarah Metcalfe 13-11	South Shields	441	24	11	Timber	Quebec	Groningen	—
Stirlingshire 6-11	Youghal	365	25	12	do	do	Highbridge	—
Pera 23-11	Norway	344	—	12	Deals	St. John, N.B.	Penarth Roads	—
Tinto 8-12	Cardiff	754	23	16	Timber	Quebec	Cardiff	*8
Euphemia 13-12	Maryport	289	24	10	do	do	Kirkcudbright	—
Marian 8-12	Liverpool	1,203	14	21	do	do	Cardiff	—
Margaret Ann 8-12	Plymouth	718	21	17	do	do	Swansea	—

* Four of *Tinto's* own crew and four belonging to the wrecked vessel *Pride of the Ocean*, of Shields.

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RETURN of Timber Laden Vessels, &c., &c.

Name of Vessel and Date of Casualty.	Lives saved and by what means.	Had she Deck Cargo.	Direction and force of wind.	Nature of Casualty.	Opinion of Officer forwarding return, as to cause of Casualty.
Queen of the West. 6-11	24 remained on board.....	No.	W.S.W. 12	Loss of spars and rudder, part cargo thrown overboard	Stress of weather
Meggie.....11-11	16 by "Marie" of Austria ..	Yes.	S.E. 12	Abandoned	do do
Chance 3-11	18 by "Holm Strand".....	Yes.	W. 7	Abandoned.....	do do
Darien (S.S.) 18-11	35 remained on board.....	No.	N.W. 10	Loss of boat, &c.....	do do
Morgan 8-11	9 do do	Yes.	S.byW. 9	Loss of deck cargo, &c.....	do do
Polly 14-11	14 do do	Yes.	N.W. 71	do do	do do
Express 24-11	15 by "Nevada" of Halifax.....		W.S.W. 7	Abandoned....	do do
White Crest. 24-11	19 remained on board.....	Yes.	N.W.byN 11	Loss of sails, deck load, &c.....	do do
Western Empire...19-11	21 do do	Yes.	N.W. 12	do do	do do
Dalkeith.....17-11	18 do do	Yes.	W. 8	Loss of sails, rigging, part of cargo, &c	do do
Morning Star.....12-11	8 do do	Yes.	W.S.W. 10	Loss of sails, deck load, &c.....	do do
Jardine Brothers...19-11	10 do do	Yes.	W.N.W. 10	Loss of deck load, &c	do do
Champion 19-11	21 do do	.....	W.S.W. 10	Decks swept....	do do
Oriental.....28-11	15 by "Edith" of New York	No.	....	Abandoned, waterlogged.....	Old ship and bad weather.
War Spirit 30-11	22 S. S. "Atlantic".....	Yes.	W.N.W. 12	do do	Deck cargo broke adrift.
Ulah..... 22-11	7 remained on board..	Yes.	W.N.W. 12	Deck swept.....	Stress of weather.
Faside..... 5-11	17 do do	Yes.	N.W. 10	Leaky, loss of deck load, &c.....	do do
Mangerton 21-11	22 do do	Yes.	N.W. 11	Loss of sails, deck load, &c	do do
Mamelon.... 19-11	17 do do	No.	N.W. 12	Decks swept, sails carried away...	do do
Dauntless..... 8-12	8 do do	Yes.	W by N. 10	Loss of sails, deck load, &c.....	do do
Radnagore.....11-11	8 by "City of Elgin".....	Yes.	W.N.W. 9	Abandoned, waterlogged.....	do do
Utinia.....23-11	16 Marian of Liverpool.....	.....	W. 9	do do	do do
Zetland.....26-11	27 remained on board.....	Yes.	W.N.W. 9	Decks swept and deck load thrown overboard.....	do do
David Cannon.....20-11	10 by "Pomona".....	Yes.	N.N.W. 6	Abandoned, waterlogged	
Charles Ward. 10-11	9 by S. S. "Batavia".....	Yes.	W.N.W. 12	Abandoned on beam ends.....	do do
Saugeen..... 25-11	13 remained on board.....	Yes.	N.W. 8	Loss of sails, spars, deck load, &c	do do
City of Manchester.29-11	24 by "Constance" of Bristol	.....	N.W. 12	Abandoned, waterlogged	do do
Kaffir Land.....20-11	17 remained on board.....	Yes.	N.N.W. 10	Loss of sails, bulwarks, deck load, &c	do do
Island Green 29-11	9 do do	Yes.	N. 10	Loss of bulwarks and deck cargo..	do do
Julia..... 1-12	20 by "Kitty Glidden".....	Yes.	W. 10	Abandoned, waterlogged	Heavy deck load
Pride of the Ocean.30-11	25 by "Princess of Wales" and "Tinto"	Yes.	10	do do	
Indian Queen.....29 11	10 by "Don Guillermo".....	Yes.	W.N.W. 10	Abandoned, waterlogg vessel turned over, but righted when the masts carried away....	Stress of weather.
Josephine 21-11	10 remained on board.....	Yes.	N.W. 10	Loss of rails and spars	do do
Lady Havelock.... 9-12	18 do do	Yes.	W. 8	Loss of sails, deck swept, &c..... ...	do do
Lutus..... 3-12	20 do do	No.	W.N.W. 12	Shifting of cargo, loss of bulwarks, &c..... .	do do
Lady Seymour.....19-11	18 do do	Yes.	N.W. 9	Loss of bulwarks, deck cargo thrown overboard...	do do
Lesbia... 1-12	22 by S. S. "Arthur".....	Yes.	N.by W. 9	Abandoned, waterlogged	do do

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RETURN of Timber Laden Vessels &c., &c.—*Continued.*

Name of Vessel and Date of Casualty.	Lives saved and by what means.	Had she Deck Cargo.	Direction and force of wind.		Nature of Casualty.	Opinion of Officer forwarding return, as o cause of Casualty.
Zarah 9-12	11 remained on board.....	Yes.		11	Leaky, &c., deck cargo thrown overboard.....	Stress of Weather.
Rosina..... 13-12	15 by "Thos. Lee".....	.....	N.	10	Abandoned, waterlogged	do do
Harda 23-11	8 remained on board.....	Yes.	N.E.	2	Stranded at West Quoddy.....	Wind falling light.
Louisa 10-13	13 by "Fride" of Sweden...	No.	W.	12	Abandoned, waterlogged.....	Stress of weather.
Dakotah 22-11	21 by "Express" of Norway.	No.	W.N.W.	12	do do	do do
Cardross..... 5-11	17 remained on board.....	Yes 17 tons	N.W.	10	Leaky, loss of sails, &c	do do
Osprey..... 29-11	16 do do	Yes.	N.W.	12	Loss of bulwarks anchors, chains, &c.....	do do
Sparkenhoe.....29-11	24 do do	Yes.	N.W.	12	Loss of sails, deck load, &c.....	do do
Sir Charles Napier. 8-12	15 do do	Yes.	W.N.W.	12	Loss of sails, part of deck cargo, &c.....	do do
Assyria.....18-11	19 by S. S. "Baltic".....	Yes.	N.N.W.	10	Abandoned, waterlogged	do do
Huano 19-11	18 remained on board.... ..	Yes.	W.N.W.	10	Decks swept and sails blown away	do do
Home 29-11	20 do do	Yes.	N.N.W.	12	Decks swept and deck load thrown overboard.....	do do
Victory.....18-11	16 do do	Yes.	W.N.W.	9	Leaky, lost deck load, sails, &c.	do do
Frenchman.....19-11	22 by S. S. "Darien".....	Yes.	N.W.	10	Abandoned, deck cargo broke adrift.....	Caused by deck cargo.
Madge Wildfire.... 7-11	16 remained on board.....	Yes.	N.E.	10	Stranded on the middle ground, Copenhagen.. ...	Set on the bank by currents
Mont Blanc 7-11	14 by the "Skjold"...	....	.. ..		Abandoned, deck cargo previously thrown overboard.....	
Chieftain..... 17-11	16 by S. S. "Tyne Queen"...	No.	N.W.	11	Abandoned, waterlogged, afterwards towed in....	Stress of weather.
Redan 24-11	18 by "St. Louis".....	Yes.	W.N.W.	11	Abandoned, waterlogged	do do
Bessie Young....39-11	10 remained on board.... ...	Yes.	W.N.W.	10	Loss of sails and deck load, etc.....	do do
Jamaica 20-11	11 do do	Yes.	N.W.	10	Loss of bulwarks deck cargo, etc.....	do do
Leandre..... 29-11	15 do do	Yes.	W.	10	Loss of spars, sails, deck cargo, &c.....	do do
Arethusa..... 19-11	11 do do	Yes.	W.	11	Decks swept, &c.....	do do
Commodore.. 18-11	19 do do	No.	N.W.	10	Decks swept	do do
Lothair..... 2-12	15 by "Annie Lorisay". ...	Yes.	N.	10	Abandoned full of water.....	do do
Illustrious..... 1-12	21 by "Cairngorm".....	.. ..	N.	12	Abandoned full of water.	do do
Alexander 22-11	11 remained on board	Yes.	N.W.	12	Leaky and loss of sails	do do
Eastern Province...23-11	10 do do	No.	W.N.W.	10	Leaky, cargo shifted, &c	do do
Ailsa..... 7-11	13 do do	Yes.	N.W.	10	Stranded	Error of master.
Sarah Metcalfe 13-11	11 by Lifeboat	Unk.	E to ENE	8	do	
Stirlingshire..... 6-11	12 by remaining on board....	Unk.	W. by N.	6	do	do do
Pera 23-11	12 by ships own boats.....	Unk.	S.W.	10	do	Stress of weather.
Tinto..... 8-12	*19 by getting on the rocks..	Unk.	W.N.W.	10	do	do do
Euphemia.....13-12	10 by own boats	Unk.	W.S.W.	4	do	Vessel making a more westerly course than supposed
Marian... 8-12	21 by remaining on board....	No.	W.	12	do	Stress of weather.
Margaret Ann.... 8-12	17 by steam tug.....	Unk.	S.W.	9	do	do do

* Twelve of *Tinto's* own crew and four belonging to the wrecked vessel *Pride of the Ocean*, of Shields.

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SUMMARY.

Number of Vessels Totally Lost.	Number of Vessels Partially Damaged.	Total Number of Vessels Lost and Damaged.	Average Age.	Average Tonnage.	Number o Crew.	Number of Lives Lost.	With Deck Load.	Without Deck Load.	Unk: whether with or without Deck Load.
29	43	72	18 17-36	749 1-6	1,204	7	48	11	13

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I think this ought to convince the honourable gentleman that there is a great necessity for some kind of legislation to put a stop to this crying evil.

The other despatch to which I referred, and which was addressed to the Governor General of Canada, is dated the 27th March, encloses Mr. Marshall's letter, which his Lordship had received, and Earl Kimberley goes on to state "that this matter, as your "Lordship is aware, is one attracting considerable attention in this country, and I trust "it will receive the early consideration of your Ministers."

The gentleman opposing this measure complains that the limitation in the West India trade to 4½ feet, will very seriously affect that trade. Let me, for his information, read this return of the shipments from St. John to the West Indies for the months of February and March last, and the honourable gentleman will perceive that all the deck-loads, as well to the United States as to the West Indies, average only 5½ feet.

The restrictions as to height of deck-load would tell sorest on a class of woodboat schooners (as they are called), which are built to carry from seven to nine feet on deck, the largest part of their cargo. There are not, however, a great many of such :—

CUSTOM HOUSE,
ST. JOHN, N.B., 1st Feb., 1873.

SIR,—I have your note of the 21st ult., respecting the height of deck-loads carried by vessels of 100, 200, 300 and 400 tons respectively to Cuba or the West Indies and coastwise, and for fall and winter. From the inquiries I have made, I find it impossible to classify them according to tonnage. The largest vessels do not carry the highest deck-loads. I have noted a few as follows, viz :

Schooner *Nelson*, 148 tons, shooks to Cuba, 6 ft. 3 in. high.
do *Robert Fulton*, 114 tons, 3½ ft. to West Indies, 8 ft., coastwise.
do *Iris*, 114 tons, 7 ft. boards to Portland.
do *Florence*, 158 tons, 6 ft. shooks to Cuba, coastwise, 8 ft. high.

The larger vessels as a rule do not carry such high deck-loads as the smaller ones. Then one master will take a higher deck load than another; one owner will force more on than another, or the cargo may be wet and heavy or light and dry. The extremes are from 3 feet to 9 feet, and I think the woodboat schooners carry the highest. If you wish me to follow the matter up any further, I shall do so, and keep a record of outward vessels' deck-loads. I find that I require to get my information in the most casual manner, as the masters of vessels in some instances fight shy.

Yours &c.,

JAMES BARBER,
Customs Officer

Wm. Smith, Esq.,
Deputy of Minister of Marine and Fisheries,
Ottawa.

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Shipments from St. John, N.B., during the month of March, 1873, with height of Deck Loads.

Rig.	Name.	Reg. Tons.	Port of Registry.	Nature of Cargo.	Where Bound.	Feet.
Schooner	Maud	398	New York	Shooks	To Cuba, 7 tiers	3·2
do	Dom Pedro	67	St. John	Boards	To Boston	6·0
do	Monsita	254	do	do	To Cuba	
Brigantine	Micmac	256	do	do	To Montevideo	4·2
Ship	Lightning	1,637	do	Deals	To Liverpool, only a few tiers	
Schooner	Volunteer	101	Windsor	Boards	To Boston	6·0
do	Ella Clifton	103	St. John	do	do about	5·0
do	Annie Martha	125	do	do	To New York	5·0
Barque	Lottie Stewart	742	do	Deals	To Penarth Roads	5·6
Ship	Calcutta	1,372	Glasgow	do	To Liverpool	3·0
Schooner	Charles A. Bovey	172	St. John	Boards, &c.	To Cuba	
Brigantine	Josie A. Devereaux	391	Boston	Shooks	do	1·6
Schooner	Earnest	79	St. John	Lumber	To Boston	7·0
do	Mocking Bird	121	do	Laths	To Vineyard Haven	7·0
do	William Wilson	266	United States	Shooks	To Cuba	6·6
do	Gipsy	72	St. John	Boards	To Boston	4·0
do	Howard Holder	93	do	Shooks	To Portland	6·0
Brigantine	Fidelia	331	Bangor	do	To Cuba. (No Deck Load)	
Schooner	Annie W.	81	St. John	do	To Portland	6·6
do	J. B. Harris	81	do	Boards	To Boston	6·0
do	Gold Hunter	104	do	do	do	7·0
Barque	Lallah Rookh	495	do	do	To Montevideo	
Schooner	E. G. Sawyer	149	United States	Shooks	To Cuba	5·0
do	Active	264	do	do	do	3·0
do	Ada	164	St. John	Boards	do	5·0
do	Snow Bird	99	do	do	To United States	7·0
do	Ida	93	do	Laths	do	6·3
do	M. R. W.	127	do	Boards	do	6·6
do	Eliza B. Beard	101	do	Laths	To Boston	5·0
do	Arcilla	94	do	do	do	9·6
do	Five Sisters	146	United States	Shooks	To Cuba, 15 tiers	7·0
do	America	86	Windsor	Boards	To Boston	0·6
do	Impudence	115	St. John	do	do	5·0
do	J. W. Scott	109	do	do	To Cuba	4·6
do	Tempo	143	do	do	do	7·0
do	Militia	70	Parrsboro	do	To Boston	5·0
do	Marcia Reynolds	293	United States	Shooks	To Cuba	3·6
do	L. and M. Knowles	177	do	do	do	7·0
do	Adelia	114	St. John	Boards	To Newport	6·6
						5 1-2

Customs, St. John, N.B., March 29th, 1873.

James Barber.

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I send you as above, a further list of vessels with the height of deck-load taken by each. Of course I get my information solely through the masters, with *one* exception. I think they are correct.

Eight shooks in height will give 3 feet; a shook is about 5¼ inches; eight tiers would therefore be a little over 3 feet.

The average height of the above is a shade over 5 feet.

I have not made any inquiries amongst the ship-owners as yet, but will do so quietly very soon. (The masters of vessels as a rule will be very thankful for such a law as you propose. One master told me if his owners would not force him to take more than 6 feet, he would be perfectly satisfied.)

I imagine from conversations I hear over the counter, that both the masters and clerks are under the impression that some restriction is about to be put upon the reckless system of *piling* on deck loads.

In making out the Wreck Returns, I have been satisfied all along that heavy deck loads have been one of the great causes of loss and disaster.)

I will continue making notes of the height of deck loads.

JAMES BARBER.

Wm. Smith, Esq.,
Deputy of Minister of Marine.

It will thus be seen from the facts which have been adduced, that not only is there an existing evil, but that public opinion demands its removal. Her Majesty's Government are fully alive to that fact as evidenced by the despatches which I have read. My colleagues and myself in the Government of Canada feel that prompt measures are imperatively demanded, and I have no doubt but that this Committee will recommend that Parliament sanction the passage of the Bill which I have introduced. Let me say to those who have opposed it, that they are not acting wisely if they have done so in the interests of the trade, as I am satisfied that the great danger to be feared from their standpoint is the extreme in restriction and inspection to which the present agitation in England will be carried in their desire to remedy the insecurity to life which the present system has developed. The probability is that there will be a rush from one extreme to the other, and this will only be intensified by opposition to it, as has been given to this measure. Our trade and the shipping interest upon which our trade largely depends, is of too great importance to our prosperity as a people to have it imperilled, and ranking as we do as a maritime people fourth amongst the nations of the world, it is our duty and interest alike to see that no restriction of an unnecessary or burthensome character should be placed upon our tonnage that is not absolutely demanded in order to give additional security to life, and to protect a class of people who are from circumstances helpless to protect themselves. From this standpoint our Government have acted, and I feel assured that the sense of this Committee will sustain the views which I have presented.

Mr. Burpee (St. John, N. B.) said the Bill was a very important one, so far as the interest of the Maritime Provinces were concerned, and it was one which would especially effect the trade of New Brunswick. The result of the discussion of the subject of deck loads in the English Parliament had been the appointment of a Commission to investigate the whole matter with a view to future legislation. If the Canadian Parliament passed a deck load bill such as that proposed, it would restrict the trade of the country, and allow foreigners to come in and take the trade from our own doors. A bill of this character should be reciprocal, and should apply to other countries as well as to Canada. He thought that if he had obtained statistics he would have been able to explain many of the facts brought forward in opposition to deck loads, and to have shown that many of the losses referred to were not owing to that cause. He contended that whilst vessels engaged in the Quebec timber trade were old worn-out vessels, the vessels sailing from New Brunswick were mostly new first-class ships, and safer with a deck load than others

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without one. Respecting loss of life, he was in a position to say that within the last five years, in which period one thousand vessels had sailed from St. John, not more than ten lives were lost in those vessels owing to deck loads. He moved an amendment to the effect that it was undesirable to pass Mr. Mitchell's bill, and that a commission be appointed to enquire into the whole subject with a view to future legislation for better protection of life and property.

Mr. Young (Montreal) thought the statistics adduced by the Minister of Marine and Fisheries ought to be sufficient to satisfy every one that a change was absolutely necessary. Out of forty-nine vessels sailing last fall from the Gulf of St. Lawrence, there was evidence that thirty-six of them were lost at sea, involving a loss of four millions of dollars. Who paid for that loss? It was not the underwriters, who knew the risks and derived a profit out of their business. It was not the ship-owners, because they insured their vessels. It was the farmer and everyone who exported a dollar's worth of produce, because the effect of those disasters was to add to the insurance of every article exported from the country. There was not a farmer or lumberman in Canada who did not pay towards that four millions of dollars. Sailors were obliged to go to sea, but every intelligent man would say that deck-loaded ships were not proper to go to sea in. The statistics of the West India trade showed that the same cause which led to great losses in the Atlantic trade was in full operation in the West India trade also. All statistics pointed to deck-loads as the cause of great losses at sea, and his only objection to the Bill of Mr. Mitchell was that it did not go far enough, and prevent deck loads altogether. He did not think Parliament should stand by and see this great annual loss of life and property without seeking to apply a remedy. With respect to the argument about waiting for similar legislation to take place in the United States, he submitted that in this new country we should do what is right, no matter what other countries do.

Mr. Doull (Pictou) thought that Parliament should defer taking action in this matter of deck-loads at the present time. The bill only provided against overloading vessels with deck-loads, but there was just as much necessity for legislation against overloading vessels with dead weight cargoes under deck. The whole question should be considered by a commission before Parliament legislated.

With reference to deck-loads—

Mr. Young (Montreal) pointed out that an Act had been passed in regard to portwardens seeing to the proper loading of vessels.

Mr. Mackenzie asked for information as to what the Commission would have to do, for if the statistics were reliable they could now form an opinion on the question. He thought that nothing but delay could be gained by appointing a Commission.

Mr. Burpee thought much more information could be had from ship-owners beyond what the Committee at present possessed. The principal reason for appointing a Commission was because a similar Commission had been asked for in the United States and granted in Great Britain. It should also be remembered that whereas the law would only affect Quebec and Montreal for a month or five weeks, it would affect New Brunswick ports during the whole period to which restriction in carrying deck-loads applied.

Mr. Mackenzie said the Commission appointed by the English Parliament was to inquire with regard to the construction rather than the loading of vessels.

Mr. Mitchell replied and submitted an additional clause for the proposed Bill, for the appointing of inspectors by the Governor in Council for loading of ships, which clause he was prepared to incorporate in the Bill, if desired.

Mr. Holton complimented the Minister of Marine and Fisheries for the manner in which he had submitted the matter to the Committee, remarking that Mr. Mitchell deserved well of the trade of the whole Dominion by reason of the great attention he had given to this very important subject. The information he had given to the Committee was of the most ample description, and he hoped the Committee would not render futile the efforts which had thus far been made in bringing about a better state of things in

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regard to what they all felt, with the evidence submitted to them, was a crying evil calling for redress at the hands of Parliament.

The amendment moved by Mr. Burpee was then put and lost.

The preamble was then adopted, and further consideration of the Bill was postponed until the next meeting of the Committee.

On the suggestion of Mr. Young (Montreal) it was agreed to print the statistics submitted by the Minister of Marine.

At the next sitting of the Committee the Bill was unanimously recommended to Parliament for adoption, and the report and evidence of Mr. Mitchell was ordered to be printed with it.

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APPENDIX No. 65.

REPORT OF THE HARBOUR COMMISSIONERS OF QUEBEC FOR YEAR ENDED 30TH APRIL, 1873.

HARBOUR COMMISSIONERS' OFFICE,
QUEBEC, 27th May, 1873.

SIR,—I have the honour to transmit to you the Statement of the Quebec Harbour Commissioners' affairs for year ended 30th April, 1873.

I have, &c.,

J. B. MARTEL,
Secretary Treasurer.

Wm. Smith, Esq.,
Deputy of the Minister of Marine and Fisheries,
Ottawa.

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DR. STATEMENT of Receipts and Expenditure, 1872-73. CR.

RECEIPTS.	$ cts.	$ cts.	$ cts.	EXPENDITURE.	$ cts.	$ cts.	$ cts.
To Beach and deep water lots			2,482 87	By Harbour of Quebec :—			
Loans of winches			3 60	Amount spent for ordinary repairs			3,447 02
Reynar's Wharf Revenue			800 00	By Insurance :—			
Atkinson's do			2,674 00	Amount paid during year			506 00
East India do			2,350 00	By General Charges :—			
Harbour of Quebec Revenue			555 87	Salaries, &c.			2,283 10
Point-à-Carcy do			9,110 00	By Interest Account :—			
W. I. and Wellington Wharves			3,868 00	12 months, paid less $810 uncalled			48,465 00
Bonded Warehouse do			500 44	By Point-à-Carcy :—			
Interest on account with La Banque Nationale			867 79	Paid for stones			21 00
Jackscrews (lease of 2)			1 00	By Bonded Warehouse, No. 7 :—			
Tonnage dues			32,613 94	Paid Customs tax			40 00
				By Balance			1,063 39
			55,827 50				55,827 51

450

ASSETS.			LIABILITIES.			
To Sundry for beach and deep water lots		47,513 88	Harbour Debentures :—			
Salt warehouse		6,379 73	8 per cent.	460,000 00		
Quarter's rent due by date		5,053 25	7 per cent.	70,000 00		
Reynar's Wharf account		8,024 75	6 per cent.	72,000 00		
Atkinson's Wharf		50,765 73	6½ per cent	600 00		
East India Wharf		41,856 85			602,600 00	
Harbour of Quebec, materials		12,370 43	Preferential Bonds, 6 per cent.		40,000 00	
Grain warehouse		11,440 84				642,600 00
La Banque Nationale, deposits		4,016 14	Coupons due			70,752 50
Point-à-Carcy		226,132 02				
Cash on hands		55 63				
Breakwater		202,110 54				
Wellington Wharf		80,321 96				
Point-à-Carcy repaired		8,062 84				
Jackscrews (30)		394 87				
Sundry for storage		112 66				
Balance		8,640 38				
		713,252 50				713,252 50

J. B. MARTEL,
Secretary-Treasurer.

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APPENDIX No. 66.

STATEMENT shewing names of the members of the Establishment Staff of the Department of Marine and Fisheries, the rank held by each of them, and salaries they severally received during the fiscal year ended 30th June, 1873.

Name.	Rank.	Salary	$ cts.	$ cts.
Hon. P. Mitchell	Minister	For six months, at $5,000.00 per annum	2,500 00	
do	do	do 7,000.00 do	3,500 00	
				6,000 00
William Smith	Deputy	Twelve months' salary	2,600 00	
do	do	Six do arrears	300 00	
				2,900 00
W. F. Whitcher	Commissioner of Fisheries	Twelve months' salary to 30th June, 1873	2,000 00	
do	do do	Bonus for six months do	150 00	
				2,150 00
John Hardie	Chief Clerk	Twelve months' salary do	1,950 00	
do	do	Bonus for six months do	146 25	
				2,096 25
Jos. Tomlinson	General Superintendent of Lights	From 1st December, 1872, to 30th June, 1873		833 30
John Tilton	1st Class Clerk (Accountant)	Twelve months' salary to 30th June, 1873	1,550 00	
do	do	Bonus for six months	116 25	
				1,666 25
do	do (Private Secretary)	From 1st July to 16th December, 1872		91 94
S. P. Bauset	Sen. 2nd Class Clerk	Twelve months' salary to 30th June, 1873	1,250 00	
do	do	Bonus for six months do	93 75	
				1,343 75
W. L. Magee	do	Twelve months do	1,200 00	
do	do	Bonus for six months do	90 00	
				1,290 00
F. F. Gourdeau	Jun. 2nd Class Clerk	Twelve months do	1,000 00	
do	do	Bonus for six months do	75 00	
				1,075 00
W. H. Alexander	3rd Class Clerk	From 1st July to 1st November, 1872	183 33	
do	Jun. 2nd Class Clerk	do 1st November, 1872, to 30th June, 1873	466 67	
do	do	Bonus for six months do	52 50	
				702 50
W. E. Everest	do	From 17th December do	378 17	
do	do	Bonus for six months do	52 50	
				430 67
do	do (Private Secretary)	From 17th December, 1872, to 30th June, 1873		108 07
T. Drinkwater	3rd Class Clerk	Twelve months to 30th June, 1873	600 00	
do	do	Bonus for six months do	45 00	
				645 00

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STATEMENT shewing the names of the members of the Establishment Staff of the Department of Marine and Fisheries.—*Concluded.*

Name.	Rank.	Salary		
			$ cts.	$ cts.
W. B. Carleton.	3rd Class Clerk	For Twelve months to 30th June, 1873.....	425 05	
do ..	do	Bonus for six months do	33 75	
				458 80
J. H. McIllree..	do	Twelve months do	425 05	
do ..	do	Bonus for six months do	33 75	
				458 80
Geo. C. Haney..	do	Twelve months do	425 05	
do ..	do	Bonus for six months do	33 75	
				458 80
G. H. Harpur ..	do	Twelve months do	425 05	
do ..	do	Bonus for six months do	33 75	
				458 80
W. S. Pettegrew	Extra Clerk	Twelve months do	.....	882 08
B. Billings.....	Draughtsman	From 1st July to 30th November, 1872	.....	456 25
Thos. Wheeler..	Messenger.....	Twelve months to 30th June, 1873.....	....	450 03
Thos. King.....	do	One month do	.....	27 50
Jules Morin ..	do	From 7th October, 1872 to 30th June, 1873..	.....	352 25
				25,336 04

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

OTTAWA, 31st December, 1873.

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ERRATA.

In Deputy Minister's Report, page xxiv, line 14 from the bottom, for "sheak," read *streak*; and on page xxv, first line at top, for "Powell," read *Crowell*.

In Appendix No. 15, page 130, in the eighth line from the top, opposite Dr. Landry's name, instead of "do" read *physician and surgeon*; and on the twenty-fourth line from the top of same page, also opposite Dr. Landry's name, instead of "Secretary-Treasurer," read *physician and surgeon*.

In Appendix No. 30, on page 228, in the thirty-third line from the bottom, opposite ship *Assam Valley*, for "100" Tons register tonnage, read 1,100; and on page 233, in the thirty-seventh line from the bottom, opposite steamer *Pieton*, it is indicated that no lives were lost, while in reality 20 were lost.

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APPENDICES

OF THE

FISHERIES BRANCH

OF THE

DEPARTMENT OF MARINE AND FISHERIES.

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LIST OF FISHERY APPENDICES

PAGE

A.—List of Fishery Officers for the Dominion of Canada 1

B.—Report of the Cruise of the Government Schooner *La Canadienne* for the season of 1873, with Statistics of Fisheries in the Gulf and Lower St. Lawrence Division 12

C.—Statistics of Fisheries, South Shore, River St. Lawrence, from Quebec to Cape Chatte.. 76

D.—Statistics of Fisheries, North Shore, River St. Lawrence, from Quebec to Bersimis..... 79

E.—General Recapitulation of the yield of Fisheries in the Province of Quebec 81

F.—Return of the Fishing Vessels at the Magdalen Islands in 1873 82

G.—Synopses of Fishery Overseers' Reports in the Province of Quebec..... 89

H.—Report on the Fish Breeding Establishment at Newcastle, Ontario, for the season of 1873.. 106

J.—Report on the Fish Breeding Establishment at Restigouche, for the season of 1873 122

K.—Report on the Fish Breeding Establishment at Gaspé Basin, for the season of 1873.... 124

L.—Report on the Fish Breeding Establishment at Miramichi, N. B., for the season of 1873..... 123

M.—Report on Fish Breeding Operations at Moisie River, for the season of 1873..... 132

N.—Report of the Inspector of Fisheries in Nova Scotia and New Brunswick 134

O.—Special Report on the Lobster..... 149

P.—Statistics of Fisheries in the Province of Nova Scotia 155

Q.—Statistics of Fisheries in the Province of New Brunswick 158

R.—Statistics of Fisheries in the Province of Ontario 162

S.—Recapitulation of the yield and value of Fisheries in the Province of Ontario 170

T.—Synopses of Fishery Overseers' Reports in the Province of Ontario..... 171

U.—Report on a Deep Sea Dredging expedition to the Gulf of St. Lawrence, by Mr. Whiteaves, F.G.S., during the season of 1873 178

V.—Remarks on the Fisheries of British Columbia, by the Agent of the Department of Marine and Fisheries at Victoria. 205

X.—Statement of Expenditure on account of Fisheries Service, for fiscal year ended 30th June, 1873 207

Y.—Statement of Expenditure on account of Marine Police, for the fiscal year ending 30th June, 1873..... 220

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APPENDIX A.

SCHEDULE of Fishery Officers in the Provinces of Ontario, Quebec, Nova Scotia, and New Brunswick, appointed under the Fisheries Act (1868), with Districts, Post Office Address, Salary, &c., &c., distinguishing those who, being Fishery Overseers, are instructed to act *ex officio*, as Magistrates, from those who act in the capacity of Fishery Wardens, and do not exercise magisterial powers.

PROVINCE OF ONTARIO.

Name.	District.	Address.	Overseer or Warden.	Salary.
				$ cts.
Henry Hunt.....	Larue's Island	Rockport	Warden...	20 00
John Wallace.....	Lindoe Island	Lansdown	do ..	40 00
J. A. Cameron.....	Cornwall to Coteau du Lac	Summerstown	Overseer..	.....
John Mooney.....	Brockville to Cornwall	Prescott	do ..	50 00
Peter Kiel.....	Wolfe and Amherst Islands, and waters around down to Brockville .	Wolfe Island	do ..	150 00
Jos. Pierson.....	Carrying Place to Point Peter.....	Consecon	do ..	100 00
Peter Huff, jun.....	West Point to Point Peter	Picton	do ..	50 00
William A. Palen...	Point Peter to Petticoat Point	Point Peter, Cherry Valley	do ..	50 00
John G. Hicks.....	Petticoat Point to Black River.....	Point Traverse.....	do ..	100 00
William Plews.....	Black River to Bongard's Wharf. . .	Prinyer	do ..	100 00
James K. Cameron.	Cobourg to Brighton, with tributary streams and lakes, including Rice Lake....	Cobourg..	do ..	100 00
Charles Wilkins.....	Waters of the Bay of Quinte fronting on Counties of Northumberland, Addington, Lennox, Hastings, and Frontenac, and from Carrying Place eastward to Point Pleasant.....	Belleville.....	do ..	200 00
Samuel Wilmot.....	Toronto to Presqu'ile	Newcastle	(*) ..	1,200 00
John W. Kerr	Whitby Harbor to Long Point.	Hamilton	do ..	500 00
John McMichael...	Lake Erie frontage, County of Kent.	Rond Eau.....	do ..	50 00
Henry Groves.....	From London to Gardner's Mill Dam on the Thames River	London.....	do ..	50 00
E. Boismier	Baptiste Creek, on Lake St. Clair, to Point Pelée	Sandwich	do ..	200 00
Zeneus Quick..	Point Pelée Island.	Kingsville.....	Warden ..	50 00
S. A. MacVicar	Baby's Point on River St. Clair, t	Sarnia	Overseer .	200 00
A. C. McKinnon ...	Kettle Point to Point Clark, Lak Huron	Goderich	do ..	100 00
John Eastwood	Goderich to Cape Hurd	Southampton	do ..	100 00
Farquhar McRae.. .	Sydenham River, and Lake St. Clair from Baptiste Creek to Baby's Point	Wallaceburg	do ..	150 00
George S. Miller....	Cape Hurd to Penetanguishene. ...	Owen Sound	do ..	100 00
G. B. Abrey.....	Penetanguishene to Thessalon River..	Little Current	do ..	100 00
Jos. Wilson.....	Thessalon River to head of Lake Superior	Sault Ste. Marie	do ..	100 00
Alexander McKenzie	Lake Simcoe and Tributaries..... .	Barrie.....	do ..	50 00
Henry Calcutt ...	Inland Waters Co., Peterboro.....	Cobourham.	do ..	200 00
James McFadden. .	Mississipi River and Lake	Carlo on Place	do ..	50 00
Richard Wilson.....	Inland Waters Co., Victoria..... ...	Finlay	do ...	200 00
C. C. Joynt	Rideau Lakes	Merrickville	Warden	50 00
		Total	.....	

*Fishery Officer in charge of Government Fish-breeding Establishment at Wilmot's Creek.

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Province of Quebec.

Name.	District.	Address.	Overseer or Warden.	Salary.
				$ cts.
Napoleon Lavoie....	Officer in charge of *La Canadienne* ...	Gaspé Basin (in summer), L'Islet (in winter)	.....	1,200 00
D. Guay	Point Levis to River Ouelle.....	St. Joseph de Levis	Overseer .	200 00
H. Martin.....	River Ouelle to Rimouski.....	Rimouski.....	do ..	200 00
L. E. Grondin.....	Rimouski to Matane.....	do	do ..	200 00
Alfred Blais	Lake Matapedia.	St. Moise	do ..	100 00
Jos. I. Letourneau..	Cape Chatte to River Ste. Anne des Monts	Ste. Anne des Monts....	do ..	100 00
Jos. Eden	York, Dartmouth and St. John Rivers, Gaspé Basin and Bay, to Point Peter.....	Gaspé Basin.....	do ..	50 00
Thos. McCallum....	White Head (*Chien Blanc*) to Percé ..	Malbaie	do ..	50 00
James M. Remon...	Perçe to Point Maquereau..... ..	Pabos	do ..	50 00
William Phelan.....	Point Maquereau to Paspebiac Point..	Port Daniel	do ..	50 00
R. W. H. Dimock..	Paspebiac Point to River Grand Cascapedia.....	New Richmond..... . .	do ..	150 00
Elmine Allard.....	Grand Cascapedia to Maguasha Point	Carleton.....	do ..	50 00
John Mowat.....	Maguasha Point to River Matapedia, including same, and..... Restigouche River from Mission Point upwards, including tributaries in Counties of Bonaventure and Restigouche.....	Matapedia.....	do ..	200 00
P. Vibert, jun.....	Erquimaux Point to Shelldrake River.	Magpie River, Coast of Labrador, *via* Gaspé Basin.	do ..	200 00
E. Pelletier.....	Trinity Bay.....	Cap. St. Ignace.....	do ..	50 00
Ferd. Saillant	Waters in Counties of Chicoutimi and Saguenay	Grand Bay (in winter, Tadousac (in summer).	do ..	150 00
C. Demeule.....	River du Gouffre to Canard River, including inland lakes adjacent to Murray Bay, and St. Paul's Bay.....	Murray Bay.....	Warden ..	50 00
Philippe Gendreon ..	Watsheeshoo District.....	Esquimaux Point.. ...	Overseer .	150 00
G. Mathurin.....	Natashquan District.....	Natashquan	do ..	150 00
....	Anticosti Island.....	Anticosti	do ..	50 00
Francois Thivierge..	Moisie District.....	Moisie	do ..	100 00
J. J. Fox	Magdalen Islands.....	Amherst	do .	50 00
J. Legouvé.....	St. Augustine Division	.....	Warden ..	100 00
W. H. Whitley.....	Bonne Esperance Division	.....	do ..	50 00
W. H. Austin.....	Lakes Memphremagog, Oxford Pond, Sugar Loaf Pond, and Brown Lake with tributaries....	Bolton Centre	Overseer .	100 00
Amos A. Mooney...	County Brome	Knowlton	do ..	100 00
W. C. Willis	Waters in District of St. Francis	Sherbrooke.....	do ..	150 00
H. W. Austin	District of Montreal and Richelieu together with Richelieu River and tributaries	Chambly.....	do ..	200 00
William Clyde.....	Chateauguay River and tributaries...	Huntingdon	do ..	50 00
P. E. Lake.....	Mississquoi Bay in Lake Champlain and Pike River.....	Phillipsburg.....	do ..	50 00
Daniel Ross.....	Lakes Beauport, St. Charles and adjacent lakes	Quebec.....	Warden ..	50 00
L. P. Huot.	Lakes Philippe, Gagné, and adjacent lakes, and the Island of Orleans ...	Chateau Richer	do ..	100 00
W. L. Holland	Ottawa District.....	Ottawa.....	Overseer .	100 00
L. J. Loranger	The Inland waters of the County of Terrebonne.....	St. Sauveau.....	do ..	100 00

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Province of Nova Scotia

Name.	District.	Address.	Overseer or Warden.	Salary.
	Annapolis County			$ cts.
W. H. Rogers	Nova Scotia	Amherst	Fishery Officer	800 00
W. T. Carty	Annapolis County	Annapolis	Overseer	120 00
George Hardwick	Annapolis and Lanquille Rivers	do	Warden	25 00
Miner Clark	Lawrencetown Bridge to Clarke's Ferry	Bridgetown	do	25 00
J. Durland	From Lawrencetown Bridge to the county line, including Nictaux River	Lawrencetown	do	25 00
B. LeCain	Lovett Brook	Annapolis	do	25 00
Charles Barteaux	Nictaux River		do	25 00
A. D. Munroe	Annapolis River		do	25 00
	Antigonish County.			
A. W. McDonald	Antigonish County	Antigonish	Overseer	125 00
Angus McDonald	From mouth of Harbor to foot of Marsh, from thence up Tracadie Stream to Lake, from Marsh up to Monastery Brook, including French Settlement Brook and Tarbits	Tracadie	Warden	30 00
	From mouth of Harbor to Forks, from thence on the Pomquet River to V. Chisholm's Mill, and from Forks on the Black River to Falls	Pomquet Forks, Antigonish	do	25 00
Albert Randall	From Shore to Lake	Bayfield, W. O.	do	15 00
Colin Chisholm	From Antigonish Harbor to McWilliams or St. Andrew's Bridge	Lower South River, Antigonish	do	25 00
Angus McDonald	From McWilliams Bridge to Frazer's Bridge, including Big Brook	Upper South River, Antigonish	do	25 00
John Cumming	From Frazer's Bridge to County Line at the head of Lake	Upper South River, Antigonish	do	20 00
John Dexter	From Antigonish Harbor (foot of Marsh) to Trotter's Mill Brook, thence up said Brook to Trotter's Mills including both branches of West River and Bailey's Brook	Antigonish	do	30 00
Donald Chisholm	From Trotter's Mill Brook to W. Thompson's dam	Salt Springs, Antigonish	do	25 00
James McLean	From Thompson's dam to Addington Forks Bridge	West River Addington Forks, Antigonish	do	25 00
Hugh Cameron	From Forks Bridge to Pinkeytown Bridge, including James River and Beaver River	Addington, W. O.	do	25 00
Duncan Fraser	From Pinkeytown Bridge to Stewart's Mill	Ohio	do	20 00
	Cape Breton County.			
Francis Quinan	Cape Breton County	Sydney	Overseer	120 00
Anthony Spencer	Mira River, Black Brook	Mira Gut, W. O.	Warden	25 00
Thomas Burke	Mira Bridge and Trout Brook	Mira W. O., Bridgetown	do	25 00
John McEachen	Salmon River	Arichat	do	25 00
Thomas Moore	Balls and Leech's Creeks	North Sydney	do	20 00
Donald McDonald	Sydney River and Forks	Lingan	do	20 00
Alexander McLean	Mill Brook		do	20 00
York Barrington	North of East Bay to head of Sydney River, including part of Boulardarie Island	Sydney Mines	Overseer	120 00
Alexander McDonald	South of East Bay to Salmon River	East Bay	do	120 00

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PROVINCE OF NOVA SCOTIA.—*Continued.*

Name.	District.	Address.	Overseer or Warden.	Salary.
	Colchester County.			$ cts.
Allan McAdam.....	Eskasoni.....	.....	Warden ..	25 00
Angus Morrison	Marion Bridge, Mira	.....	do ..	25 00
Denis Murphy.....	Ponds, Sydney Mines	.....	do ..	25 00
D. McDonall.....	Salmon Holes, Sydney Forks.....	.....	do ..	25 00
M. McLellan.....	Rory Brack's Brook	.....	do ..	25 00
William Blair	Colchester County, South Division....	Onslow	Overseer .	100 00
G. N. Christie.....	Salmon River	Truro	Warden ..	25 00
Samuel Frame.....	Shubenacadie River.....	Shubenacadie River.....	do ..	25 00
Robert J. Pollock....	Stewiacke River (lower portion).....	Lower Stewaicke.	do ..	25 00
George Fulton.....	Stewiacke River (upper portion)	Stewiacke River, Brookfield.....	do ..	25 00
James Bonnyman...	French River and Mill Brook	New Annan	Overseer .	40 00
J. W. Davison.....	Colchester County, North Division...	Londonderry.	do .	100 00
J. Urquhart.....	Waugh's River.....	Tatamagouche.....	Warden ..	50 00
W. McElheney	De Bert River.....	Londonderry	do ..	25 00
Henry Urquhart....	Folly River	do	do ...	25 00
Henry M. Fulton...	Portapique River.....	Portapique W.O...	do ..	25 00
George Moore	Economy River	Economy'	do ..	25 00
	Cumberland County.			
Thomas H. Patton..	Cumberland County, Eastern Division, embracing all streams emptying into the Straits of Northumberland	River Philip.....	Overseer .	100 00
Oliver Fillmore	River Philip, Hanams Falls, upwards	do	Warden ..	25 00
David Stewart.....	do do downwards	do	do ..	25 00
Jeremiah Brownell..	Shinimicas River	Shinimicas, Goose River.	do ..	25 00
Asa Fillmore	River Philip	River Philip.....	do ..	25 00
James King	Cumberland County, Western Division, including all streams flowing into Bay of Fundy.....	Amherst.....	Overseer .	100 00
David Corbett	Lapplanche and Nappan Rivers ...	do	Warden ..	25 00
Moses Harrison	Maccan River	Maccan, W. O....	do ..	25 00
John H. Barnes	River Hebert...	.....	do ..	25 00
Francis L. Jenks....	Parrsboro' Head	Parrsboro'.....	do ..	25 00
W. C. Rindress	Wallace River.....	Pugwash	do ..	30 00
Elijah Fowler	Diligent, Ramshead and Fox Rivers, including fisheries from Partridge Island to Spencer Island	Diligent River, Parrsboro'	do ..	30 00
	Digby County.			
James H. Morehouse	Digby County..	Hillsburg.....	Overseer .	120 00
William Odel	Joggin's River	Digby	Warden ..	25 00
Basil R. Robicheau..	Salmon River...	Salmon River, W.O.....	do ..	25 00
Lochlin McKay	St. Mary's Bay.....	St. Mary's Bay, W.O...	do ..	25 00
Robert Journey	Sissaboo River	Digby.....	do ..	25 00
John P. Thibodeau...	Metaghan Rivers and Comeau's Brook	Metaghan River	.....	25 00
	Guysborough County.			
James A. Tory.....	Guysborough County	Guysborough	Overseer .	150 00
James Cook	Salmon River, from mouth of river to Graham's West Line	Salmon River, W.O.....	Warden ..	25 00
William P. Carritt..	From Graham's West Line to foot of Neil's Lake, including North Branch and Lake	do	do ..	20 00
Charles Kenny.....	From foot of Neil's Lake to Beaver Dam Lake, inclusive, and all the lakes through which it passes	Salmon River, West Branch, Guysborough.	do ..	15 00
Donald Gunn	From mouth of Scott's place to Country Harbor Lake, including Gunn's Brook from main river to Hurley's Lake ..	Cross Roads	do ..	30 00

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PROVINCE OF NOVA SCOTIA—*Continued.*

Name.	District.	Address.	Overseer or Warden.	Salary.
	Guysborough County.—Continued.			$ cts.
William Pride	From mouth of St. Mary's River to Sinclair's Point, including stream from Wine Harbor to Lakes.....	Sherbrook, St. Mary's ..	Warden ..	30 00
Thos. McKeen	From Forks to County line including McQueen's Mill and Brook to Lake	Melrose	do ..	30 00
Edward Jordan.....	From Forks to Indian-man's Brook...	Glenelg	do ..	30 00
Robt. McKay	From head of tide to head of Intervale on the North Branch, and to Cameron's Mill on the Valley Branch....	Guysboro', Intervale, W.O	do ..	15 00
Jas. R. Bruce	From Mouth of Clam Harbor River to Upper Falls.....	Guysborough	do ..	10 00
Jas. Nickerson	From Beach to Falls including North-West Brook.....	New Harbor, W.O.....	do ..	15 00
Allan McQuarry....	St. Mary's River.....	St. Mary's River Sherbrook	do ..	40 00
	Halifax County.			
Ezekiel Sibley	Halifax County, East Division, Dartmouth to Ecum Secum	Meagher's Grant, W.O., Musquodoboit	Overseer..	100 00
Wm. Guild.....	From Ship Harbor to Chezzetcook, inclusive	Ship Harbor.....	Warden ..	40 00
Wm. Hall.....	Sheet Harbor....	Sheet Harbor.	do ..	40 00
John Fitzgerald	Halifax Harbor to Margaret Bay, Portuguese Cove.	Portuguese Cove.... ...	Overseer..	100 00
Archibald Kidston..	From Peggy's Cove to Terrance Bay..	Spryfield	Warden ..	40 00
Nathaniel Mason...	From Hubbert's to Peggy's Cove, Margaret Bay.....	Margaret Bay, Peggy's Cove, W.O.....	do ..	40 00
Jas. B. Gilbert. ...	Gay's River	Gay's River, W.O.....	do ..	20 00
Andrew Horne, jun.	Upper Shubenacadie River.....	Shubenacadie.....	do ..	20 00
Hiram Blanchard...	Sackville River.....	....	Overseer..	No pay.
	Hants County.			
Peter S. Burnham..	Hants County, Western Division, to extend from West County line to Walton	Windsor.....	do ...	100 00
John W. Dinsmore .	Shubenacadie R., from Stewiacke R to Halifax County line	Shubenacadie.....	Warden ..	30 00
James Mosher.....	Rivers Meander and Herbert, from mouth to source.....	Brooklyn.....	do ..	30 00
Timothy B. O'Brien	East Division from Walton to Colchester line...	Windsor	Overseer..	100 00
Joseph Mosher	Kennetcook River from its mouth to the head of tide.....	Newport	Warden ..	50 00
Jas. M. O'Brien....	Walton and Kennetcook Rivers	Maitland.....	do ..	30 00
	Inverness County.			
Murdoch A. Ross...	Inverness County, East Division.....	North East Margaree...	Overseer.	100 00
Peter Coady.....	From mouth of Margaree River to South West Chapel.....	South West Margaree, W.O	Warden ..	25 00
John Carmichael....	Middle portion of Margaree River....	Margaree, W.O.....	do ..	25 00
Archibald McDougal	Upper waters and tributaries, Margaree River	Margaree River, Mabou.	do ..	25 00
Reuben Phillips .. }	Upper waters and tributaries, Mar-	{ Margaree, North East }	do ..	25 00
John McRae ... }	garee River		do ..	25 00
Wm. Grant	Inverness County, West Division.....	Mabou	Overseer..	100 00

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PROVINCE OF NOVA SCOTIA.—*Continued.*

Name.	District.	Address.	Overseer or Warden.	Salary.
	Inverness County.—Continued.			$ cts.
Bernard Dwyer	Mabou River	Mabou	Warden	25 00
Angus McIntyre	River Dennis	River Dennis, W.O	do	25 00
Donald McDonald	do Inhabitants	River Inhabitants, W.O.	do	25 00
Angus Cameron	do do	do	do	25 00
A. McLellan	do do	Broad Cove	do	25 00
Hugh Cameron	do do	S.W. Mabou	do	25 00
James McGarry	Ainsley Lake	Margaree	do	25 00
	King's County.			
Adolphus Bishop	King's County	King's County	Overseer	125 00
John E. Starr	do	Port William	do	250 00
W. McIntyre	Annapolis River	Kentville	Warden	30 00
Irad Benjamin	Gasperaux	Gasperaux	do	20 00
John Buchanan	do	do	do	20 00
	Lunenburg County.			
Daniel Dimock	Lunenburg Co. East div. Middle, Gold, Martin's and Mushamush Rivers	Chester	Overseer	100 00
Ebenezer Frail	Eastern River	do	Warden	25 00
James Corkum	Middle River	do	do	25 00
William Mosher	Lower Gold River	do	do	25 00
John Hutt	Upper Gold River	Beech Hill, Chester	do	25 00
James Langille	Martin's River	Chester	do	25 00
Henry S. Jost	Lunenburg Co. West Division	Lunenburg	Overseer	100 00
Charles Pernette	From mouth of Lahave River to Wilkie's Cove	do	Warden	25 00
John Artz	Wilkie's Cove, to Henry Koch's	Bridgewater	do	25 00
James Mossman	From Henry Koch's to Knock's	Lunenburg	do	25 00
Edward Morgan	Knock's to source of Lahave River	Lahave River, New Germany, W.O	do	25 00
W. Veinot	Mushamush River	Chester	do	25 00
George A. Nesbit	Petite River	Petite River	do	25 00
	Pictou County.			
John McDonald	Pictou County, East Division, including Sutherland's, French and Barney's River, Bailey's Brook and shore fishery from Pictou Harbor Eastward to Co. Line	Ponds, W.O	Overseer	170 00
J. McKay	Barney's River	do	Warden	25 00
John McRae	Sutherland River	New Glasgow	do	25 00
George Foote	French River	French River	do	25 00
Dan. McLean	Bailey's Brook	Bailey's Brook, W.O	do	30 00
Charles Henry	Pictou County, West Division, including Middle, West and Caribou, Toney and John Rivers	River John	Overseer	130 00
John Turner	French River	do	Warden	25 00
P. Campbell	East River	do	do	30 00
Alex. Douglas	Middle River	Middle River	do	25 00
W. Evans	West River	West River	do	25 00
A. McKenzie	Toney River	Toney River	do	25 00
John Cameron	River John	River John	do	25 00
George McKenzie	Caribou River	Caribou River	do	25 00
John McDonald	Barney's River from McDonald's Bridge to Head	Barney's River	do	25 00

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PROVINCE OF NOVA SCOTIA.—*Continued.*

Name.	District.	Address.	Overseer or Warden.	Salary.
	Pictou County.—Continued.			$ cts.
William McGregor.	East River from Iron Bridge to Grant's Factory, from tide to Iron Bridge Coal Mine	Churchville.	Warden	25 00
Samuel Frazer	Grant's Factory to East Branch Lake.	Bridgeville.	do	25 00
Donald Frazer	Fork and West Branch Lake	Hopewell	do	25 00
	Queen's County.			
Samuel T. N. Sellon	Queen's County	Liverpool	Overseer	120 00
Stephen Clements	Fort Point to Salmon Rocks, Milton Bridge, on Liverpool River	do	Warden	25 00
Theodosius Ford	Milton Bridge, up Port Liverpool River	Milton	do	50 00
William Buchanan	Salmon Rock to Puddingpan Island, around the Coast	Liverpool	do	20 00
Henry Hooker	Puddingpan Island to Toby's Island up Port Medway River to Dog Cove	Port Medway	do	30 00
John Fitzgerald	From Steam Mills to Salter's Falls on Port Medway River.	Mill's Village	do	30 00
Barnabas Miles	Salter's Falls to Pawn Hook on Port Medway River	Greenfield, W.O.	do	20 00
Stephen Smith	Pawn Hook to Brookfield	Liverpool	do	20 00
Jonathan Smith	Fort Point to Western Head, Liverpool Harbor	do	do	15 00
James Farquhar	Western Head, Liverpool Harbor, to Broad River, Port Mouton and Port Joli	do	do	30 00
J. N. Mack	Port Medway River	Mill Village	do	30 00
	Richmond County.			
Duncan Cameron	Eastern Division from River Bourgeoise to East Boundary of County, including said river	St. Peter's	Overseer	125 00
Alex. Urquhart	Grand River	Grand River, W.O.	Warden	30 00
Hector McKinnon	Loch Lomond	Loch Lomond, W.O.	do	30 00
John H. Ballam	Western Division, from River Bourgeoise to West Boundary of County.	Arichat	Overseer	125 00
Peter W. Gronchy	Decousse River	Decousse River, Arichat.	Warden	30 00
John Proctor sen.	Inhabitant's River	Port Hawkesbury	do	20 00
Abraham Sampson	Petit Degrat Inlet	Petit Degrat	do	30 00
Justinian Sampson	L'Ardoise	L'Ardoise	do	30 00
Charles Grant	River Inhabitants	River Inhabitants	do	20 00
D. McLaughlin	West Bay, Black River		do	30 00
Ed. Madden	Rear of River Bourgeoise	River Bourgeoise	do	30 00
George Donahoe	River Moulin		do	30 00
	Shelburne County.			
Wm. Muir, jun	Shelburne County	Shelburne	Overseer	125 00
W. McKay	Clyde River	do	Warden	20 00
Matthias Greenwood	Round Bay River and Indian Brook	Clyde River, W.O.	do	20 00
George Archer	Birchtown River	Shelburne	do	15 00
Richard McGill	Roseway River	do	do	20 00
James Turner	Jordan River	do	do	30 00
Lathrop Freeman	Sable River	Sable River, W.O.	do	30 00
Henry Ackerman	Green Harbor	Ragged Island, Locke's Island, W.O.	do	20 00
P. Crowell	Barrington River	Barrington	do	20 00

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PROVINCE OF NOVA SCOTIA.—*Continued.*

Name.	District.	Address.	Overseer or Warden.	Salary.
	Victoria County.			$ cts.
J. W. Burke	Victoria Co. North Division	Ingonish	Overseer	120 00
Donald McRae, jun.	do South do	Baddeck	do	120 00
John McLellan	Middle River	Middle River, W.O. Baddeck	Warden	25 00
John McDonald	do Upper Settlement	Baddeck	do	25 00
Donald McQuarrie	do	do	do	25 00
Donald McMillan	Baddeck River	Middle River, W.O. Baddeck	do	25 00
Donald McAulay	do	do do	do	25 00
Hector McKenzie	North River	North River, W.O	do	25 00
Donald McRae	Baddeck River tributaries	Baddeck	do	25 00
Francis Arnold	do North Branch	do	do	25 00
	Yarmouth County.			
T. B. Crosby	Yarmouth County	Tusket	Overseer	100 00
J. A. Hatfield	From Reynard's Falls to Lower Narrows, Tusket River	do	Warden	50 00
William Kavanagh	Gurill's Bridge to Coldstream	do	do	25 00
William Prosser	Branches of River above Reynard's Falls	do	do	25 00
Eustace Nickerson	Salmon River	Yarmouth	do	25 00
Edward Perry	Little River	do	do	25 00

PROVINCE OF NEW BRUNSWICK.

W. H. Venning	New Brunswick and Nova Scotia	St. John, N.B	Inspector of fisheries	1,400 00
C. R. Venning		do	Clerk	400 00
	County of Albert.			
Winthrop Akerley	County of Albert	Harvey	Overseer	100 00
John Taylor	Petitcodiac River	Coverdale	do	40 00
Chamb's McLatchey	Mouth of Petitcodiac River and Dorchester Bay	Hillsboro'	Warden	40 00
Jacob Beck	Pollet River	Elgin	do	30 00
James E. Kenney	Germantown Lake and Shepody River	Hopewell Corner	do	40 00
Bartlett Oliver	Rocher Bay	Waterside	do	40 00
	County of Carleton.			
Hugh Miller	Miramichi River (S.W.) from Head Waters to Forks	Glassville	Overseer	30 00
Hugh Harrison	St. John's River and tributaries, from Longs' Creek to Tobique River	Woodstock	do	100 00
George Burt	St. John's River	Upper Woodstock	Warden	30 00
	County of Charlotte.			
M. J. C. Andrews	Inner Bay of Passamaquoddy	St. Andrews	Overseer	200 00
James Brown	Campo-Bello and West Isles, with coast and streams in Charlotte County	Campo-Bello	do	100 00
Patrick Curran	St. Croix River and tributaries	Milltown, St. Stephen	do	120 00
W. B. McLaughlin	Grand Manan Island and spawning grounds	Grand Manan	do	*240 00
Samuel Dick	St. George to Beaver Harbor	La Tête, W.O	Warden	30 00
Robert Dixon	Seeley's Cove to Lepreaux	Lepreaux	do	30 00
Leonard Best	East District from La Tête to Lepreaux	Beaver Harbor, W.O	Overseer	100 00

* Includes boat hire.

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Province of New Brunswick.—*Continued.*

Name.	District.	Address.	Overseer or Warden.	Salary.
	County of Gloucester.			$ cts.
James Hickson.....	River Nipisiguit and tributaries, with Sea Coast and streams from Belle Dune River to Grindstone Point....	Bathurst	Overseer .	250 00
William Bateman...	Nipisiguit River	do	Warden..	50 00
Juste Hache.....	Oyster Beds in Co. of Gloucester, Carraquet and Shippegan.....	Caraquet	Overseer .	100 00
Justinian Savoy	Tracadie	Tracadie, W. G.....	do ..	30 00
John L. Veno.....	Pokemouche	Pokemouche.....	Warden..	30 00
Samuel Miller	Bathurst Harbor	Bathurst	do ..	.....
	County of Kent.			
Charles Cormier ...	Cocagne River.....	Cocagne	Overseer .	100 00
J. McD. Sutherland	Richibucto River.....	Richibucto	do ..	50 00
Francis B. Légaré...	Little Buctouche River	Little Buctouche River, Shediac	Warden..	30 00
A. M. Girouard.....	Big Buctouche River	Buctouche.....	do ..	30 00
James Harnett.....	From the mouth of Nicholas River on the Richibucto, upwards, including Nicholas River	Weldford	do ..	30 00
	County of Kings.			
Isaac Foshay.....	County of Kings	Sussex, Apohaqui	Overseer .	100 00
Samuel Goslin	From the mouth of Smith's Creek upwards.....	Smith's Creek, W. O....	do ..	50 00
Samuel F. Ryan....	Mill Stream	Studholm, Apohaqui....	Warden..	30 00
N. H. Deveber.....	St. John's River and Belle Isle Bay and streams running thereinto.....	Westfield	Overseer .	50 00
Samuel Gamblain...	Washademoak Lake and its tributaries in Kings and Queens Counties.....	Mouth of Nerepis.....	Warden..	30 00
	County of Northumberland.			
Thos. Savoy	Burnt Church River and tributaries..	Upper Neguac	Overseer .	30 00
Norman Campbell...	Tabusintac Rivers and tributaries....	Tabusintac, Miramichi..	Warden..	50 00
Amos Perley.....	Miramichi River and Bay, east of Beaubair's Island, in the Parishes of Glenelg and Chatham.....	Chatham, Miramichi. ..	Overseer .	100 00
Christopher Parker.. and N. B. T. Underhill..	Miramichi River and tributaries from Newcastle to Price's Island between Beaubair's Island and Boiestown.....	Newcastle, do	do ..	160 00
		Blackville, do	do ..	160 00
John Hogan	Miramichi River (N. W.) and tributaries from Newcastle upwards.	Newcastle, do	do ..	400 00
Aaron Hovey.....	Miramichi River (S. W.) and tributaries between Blissfield and Boiestown...	Boiestown	Warden...	30 00
Geo. Bryanton	From Elm Tree Brook to Squire Underhill's, on S. W. Miramichi River ...	Blacktown, Indiantown .	do ..	30 00
Kenneth Cameron...	Miramichi River, S. W. from line of Blissfield to the Head Waters and tributaries.....	Boiestown Miramichi..	Overseer..	100 00
Patrick Bergin	Cain's River, Parish of Blackville....	Dumphey, W. O., Parish Blackville, S. W. Miramichi.....	Warden..	30 00
Thos. Smith.....	From lower end of Fingley's Island on N. W. Miramichi, upwards, and the Big Sevogle	North Esk, Miramichi ..	do ..	30 00
			do ..	30 00

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PROVINCE OF NEW BRUNSWICK.—*Continued.*

Name.	District.	Address.	Overseer or Warden.	Salary.
	County of Northumberland--Continued.			$ cts.
David Somers.....	From lower side of Ox Bow, on the Little South West, upwards.....	North Esk, Miramichi..	Overseer .	30 00
Patrick Gillis.....	Little South West River and tributaries.	do do ..	Warden..	30 00
Denis Hogan.....	Renous River and tributaries.....	Renous Bridge, W.O....	do ..	30 00
Thos. McKenzie	From Dunbar's Point on N.W. Miramichi to lower end of Fingley's Island on Little South West to lower side of Ox Bow.....	Red Bank, North Esk, Miramichi...	do ..	30 00
Henry Oldfield.....	Big Sevogle to Square Forks....	North Esk.....	.....	30 00
Robt. Brimner	Napan and Black Rivers and tributaries.....	Chatham, Miramichi	do ..	30 00
John Williston.....	Bay du Vin River and Bay, with Parish of Hardwick, Fox, and other Islands and Stations on South side of Main Channel of Miramichi River	Bay du Vin, W.O	Overseer .	100 00
James Russell	Miramichi Bay and feeders	Newcastle, Miramichi...	do ..	150 00
Thos. Taylor.	S. W. Miramichi River, within the Parish of Blissfield	.....	do ..	50 00
	County of Queen's.			
Isaiah Langan.....	Salmon River.....	Chipman W.O. Gasperaux	Warden ..	30 00
John Secord	Canaan River	Long's Creek, Johnston.	do ..	30 00
I. T. Hetherington..	From Cole's Island to foot of Washademoak Lake	Jenkins, W.O., Johnston.	do ..	30 00
	County of Restigouche.			
E. Ferguson	Little Dune River to Morris Rock....	Dalhousie	Overseer .	100 00
W. McMillan	From Little Belle Dune to Eel River.	New Mills.....	do ..	100 00
A. McPherson, Jr...	Charlo River.....	Eel River.....	Warden..	25 00
J. McMillan.....	Jacquet River.....	River Louison, W.O...	do ..	25 00
	County of Sunbury.			
Reuben Hoben	St. John's River, Indiantown, to County Line of York	Burton, W.O	Overseer...	100 00
	County of St. John.			
Cyprian E. Godard...	St. John County	St. John.....	do ..	150 00
William Skillen	Eastern part of St. John County, from Quaco Head to Goose River.....	St. Martins.....	do ..	100 00
	County of Victoria.			
C. McClusky	County of Victoria	Grand Falls	do ..	100 00
John Jamer	Tobique River.	Andover	Warden.	30 00
John McDougall....	Three Brooks, branch of Tobique River	Arthurette, W.O	do ..	30 00
G. Bedell	Salmon River.....	Andover	do ..	30 00
Donald Fraser.....	Tobique River.....	do	do ..	30 00
	County of Westmoreland.			
W. B. Deacon	Shediac Harbor and River	Shediac	Overseer..	60 00
.....	Petitcodiac and Memramcook River..	Moncton	do ..	60 00
D. T. Cormier	Dorchester Bay	Gautreau Village.....	do ..	..... .

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PROVINCE OF NEW BRUNSWICK.—*Continued.*

Name.	District.	Address.	Overseer or Warden.	Salary.
	County of York.			$ cts.
C. McPherson	County of York	Fredericton.....	Overseer..	150 00
J. Campbell.....	Grand Pass on St. John's River upwards.....	Kingsclear, W.O., Fredericton...	Warden ..	30 00
W. Brown.....	St. John's River.....	Southampton	do ..	30 00
A. Moir.....	From Price's Bend to Burnt Hill, S.W. Miramichi.....	Bloomfield.....	do ..	30 00
		Total.....	.....	.....

A. J. SMITH,
Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 31st December, 1873.

(Certified) W. F. WHITCHER,
Commissioner of Fisheries.

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APPENDIX B.

REPORT OF THE CRUISE OF THE GOVERNMENT SCHOONER, "LA CANADIENNE," IN THE RIVER AND GULF OF ST. LAWRENCE, FOR THE SEASON OF 1873, UNDER COMMAND OF N. LAVOIE, ESQ. FISHERY OFFICER.

To the Honorable A. J. SMITH,
Minister of Marine and Fisheries,
Ottawa.

L'ISLET, 1st January, 1874.

SIR,—I have the honor to submit the following report of the cruise of *La Canadienne*, charged with the protection of the fisheries in the Gulf and Lower St. Lawrence during the past season.

The same causes which delayed our departure last season again prevented us from leaving Quebec before the 13th of May, two days later than in 1872. One of the principal reasons of our late departure was the absolute necessity of placing *La Canadienne* on the slip for repairs to her copper sheathing which had been damaged by the ice, she having been wintered afloat for reasons of economy. Experience has, however, shown us that it would be unwise to repeat this again without exposing the vessel to serious damage. *La Canadienne* has now seen nineteen years' service, and from the nature of the work she is called upon to perform, and the kind of navigation she has to go through, she must be handled with great care; consequently I would recommend that in future she be placed on the slip instead of being wintered afloat.

Our passage below was very slow. Eight days after leaving Quebec, we were still anchored opposite Les Eboulements, whither contrary winds had compelled us to put back, and we reached Magdalen Islands, our first destination for the spring cruise, only on the 25th May. Our sails suffered terribly during the stormy passage down, so much so that we had to replace them during summer. The state of the fisheries at Magdalen Islands is treated of in the body of this report. We stayed at the Islands until the 27th May, when we left for Bay des Chaleurs, our next destination, intending to return to the Magdalen Islands by the 10th of June, when our presence would again be required there.

La Canadienne was engaged on her cruise this season about five months. We visited Magdalen Islands and Bay des Chaleurs three times, and the several fishing settlements on the north and south shores of the Gulf were twice visited. The season all through was very rough. I need not here allude to the terrific storm which prevailed during the latter part of August at Magdalen Islands and on the coasts of Nova Scotia and New Brunswick, by which so many vessels and fishing craft were lost. These details I have already reported to you, and will revert to them under the head of Magdalen Islands. A kind Providence prevented us, however, from falling a prey to angry elements, and our cruise on the whole would be considered a prosperous one, had we not had the misfortune to lose our sailing master, Captain Leblanc. The circumstances of this sad accident occurred as follows:—When at Grand River, anxiously waiting for our boat, which I had sent ashore with Captain Leblanc and three men, we were informed that she had capsized in a squall of wind, and that Captain Leblanc and the men were drowned. Our feelings can more easily be understood than described, from the gloom cast over us by this sad intelligence. However, repressing my grief, I hastened ashore in hopes, if not too late, to restore life to some of our poor men. This, unfortunately, was not to be, and it was only after a search of two hours and a half that we succeeded in finding the three sailors, Boutin, Turgeon,

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and Caron. Captain Leblanc's body was only discovered next morning, on the 1st of June, about one mile from where the boat upset. This sad event caused a deep sensation at Grand River; but it was indeed a consolation to notice the kindness and sympathy of the whole village, and how ready and willing all were to search for the drowned men, and to pay a last tribute of respect and friendship to their remains. The bodies were buried in the parish churchyard, after a solemn service and amidst a large attendance of people. To the Rev. Mr. Saucier and Z. Joncas, Esq., merchant, am I particularly indebted for attention and kindness. In the death of Captain Leblanc the Department has lost a good active and intelligent officer, who, for eight years, was sailing master of *La Canadienne*, and piloted her without accident out of many dangers. The vessel having temporarily, been placed under charge of the first mate, we continued our cruise, which fortunately terminated without further accidents.

The present fishing season has on the whole been a prosperous one in the lower St. Lawrence and Gulf, and fishermen generally have reason to be satisfied. Our people appreciate more fully every year the actual benefits derived from the fisheries protection service, and the intelligent care bestowed on their wants by the Department of Marine and Fisheries. Our fisheries have been completely and efficiently protected; the service which was inaugurated by my predecessors has, I have reasons to hope, not deteriorated in my hands. In addition to the local fishery guardians scattered all along the coast and Bay des Chaleurs, *La Canadienne* paid repeated visits to the several fishing establishments, and the result of this active supervision was that our fishing population had at all times free access to their fisheries, and have been enabled to follow their calling without any fear of their being molested or disturbed.

The several occupants of stationary seal and salmon fishing stations have enjoyed peaceful occupation of their respective privileges, as well as of the land or beach required for carrying on their business.

No United States fishermen were allowed to fish within our bays, and I am happy to say that their behaviour during the whole of the season was most orderly and exceedingly friendly.

No French fishermen from Newfoundland or St. Pierre Miquelon visited our shores for the purpose of fishing, from which it is well known they are precluded by the treaties.

The Fisheries Act and Regulations have been duly observed, the people fully understanding that these laws were framed for their benefit, and that any beneficial result coming from their observance must eventually turn to their advantage.

All our salmon and trout fishery stations are now placed under season licences, the total revenue of which has this year produced $1,400. The net fishing of the most important rivers such as the Moisie, St. John, Mingan, Natashquan, etc., etc., are, however, let by the Department directly, as well as the fly-fishing privileges of all streams, which produce a much larger revenue.

The overseeing and proper guarding of the numerous salmon and trout rivers on the lower St. Lawrence division is certainly a work of difficulty and importance, some of these streams being large and settled at their mouths, with a population more or less bent on poaching; but the assistance and intelligent help lent me by the several fishery overseers and guardians appointed by the Department has rendered this part of my work comparatively easy, and the results, I am happy to say, are eminently satisfactory to everyone.

The fish-breeding establishments which, under the judicious initiative of your predecessor in office, are being constructed on our best salmon streams, have excited the interest of our fishermen, and they cannot fail to see therein the invariable interest evinced by your Department in promoting their welfare.

The harbor regulations at Magdalen Islands were duly enforced, and I need not add that whenever our services were required for the prevention of troubles, quelling of disturbances, or protection of property, they were in every instance promptly and cheerfully given.

Such is, Sir, an outline of the duties which *La Canadienne* has every year to perform

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in the lower St. Lawrence, and I can only hope that my humble efforts to fulfil them intelligently and satisfactorily may have met with your approval.

With these preliminary remarks, which I deemed necessary for you fully to understand the nature and importance of the work entrusted to our hands, I shall proceed to review the several fisheries of the Gulf and lower St. Lawrence in the order hereinafter set forth.

I have the honor to be, Sir,
Your most obedient servant,

N. LAVOIE,
Fishery Officer in command of *La Canadienne*.

GASPÉ AND BONAVENTURE DIVISIONS.

Having already, in previous reports, alluded separately to the history of the first inhabitants and settlements of both the counties of Gaspé and Bonaventure; having spoken at length of their agricultural and fishing resources, and detailed the best harbors and most advantageous commerial ports, I will, in the present instance, unite them into one division, on account of the analogy of their resources and products.

Although these two counties, which, some years ago averaged about 10,000 inhabitants have somewhat increased in population, there being now 28,000 souls, the individual increase in wealth has not been materially sensible; the greater part of the inhabitants being at the present time almost as poor and dependent as they were ten years ago. Neither is this state of things to be wondered at, when one possesses an intimate knowledge of the system of bondage under which the poor fisherman is compelled to live. Let us consider the immense wealth of this sea, encircling a coast of over 300 miles in extent; waters teeming with fish, the abundance of which has not diminished although fished year after year, and yielding to the fishermen regular and abundant harvest. Let us look at these tracts of land so easy to cultivate, and which demand only labor and perseverance to make them yield one hundred per cent. Let us ponder on these facts, and say whether there has been any material progress. Compare Gaspé and Bonaventure to the Saguenay and the Eastern Townships, where difficulties of all sorts had to be encountered, disasters to be overcome, whilst the advantages were not so great, and determine on which side the material progress and advancement have been. Of course you will find here and there some families which, uniting farming and fishing pursuits, have succeeded in somewhat bettering their position; but they are the exception, whilst on the contrary, it should be the rule.

If one now looks at the cause of this impediment in the progressive welfare and advancement of these fine counties, it is invariably found in the system of trade pursued; a system altogether repulsive to all feelings of humanity, whilst it must ultimately conduce to the ruin of those who are compelled to submit to its iron grasp. Most of the large firms own extensive tracts of land, especially in Gaspé and the eastern part of Bonaventure; they fix the price of fish themselves, and compel fishermen to buy goods and provisions at their stores, and at exorbitant prices; their sole object seems only to be to make prompt and large fortunes, almost every cent of which will be spent in a foreign country.

Is it to be wondered that, under such practices, our people should feel aggrieved, and openly denounce their rulers?

This state of things loudly calls for a change. Why should we not try to better the fisherman's position?

In France, if I am not mistaken, the price of codfish is fixed by Government, and the speculator is not allowed to take advantage of the poor fisherman. I believe that something similar would be well received here, especially by fishermen, who have suffered too long already.

Although the County of Gaspé is not so much given to agricultural pursuits as that of Bonaventure, where beautiful tracts of cultivated land are noticeable; still, in several places, fine fields are to be seen belonging to persons who know how to appreciate the

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benefits of agriculture, as at Cape Cove, Percé, along the York and Dartmouth river, at Ste Anne des Monts, and Mont Louis.

Apart from the benefits derived from the fish trade, the inhabitants of Bonaventure also make money with the Intercolonial Railway. Gaspé, which has been a long time in the back ground, will now receive a fresh impulse from the large lumber business which is now carried on. There are already two steam saw mills, one at Gaspé, owned by Lowndes Brothers, the other at Madeleine River, belonging to Vachon & Co.; and new firms are to carry on lumber operations at Barachois and Pabos Rivers.

The trade of Gaspé, at least where fishing is practised, is in the hands of Jersey merchants, whose vessels bring all they want for their men and the county inhabitants, so that traders have a poor chance to establish competition for reasons already given.

A great many strangers visited Baie des Chaleurs during the present season, and especially Gaspé, which appears to become more and more popular every year as a watering place.

A fact worthy of remark is the almost total absence of riot and disorder, on such a large extent of coast as those comprised in the districts of Gaspé and Bonaventure, frequented during the summer season by large numbers of laborers, fishermen and sailors,—the Micmac Indians being the only people who required to be pacified this season. During the month of August we were informed that American fishermen numbering 300 had landed at Paspebiac, and, in a row, burned down a house. So soon as circumstances would admit of my doing so, I investigated the matter, but found to my satisfaction that the report was false, and that they had had nothing to do with the fire.

The grain and hay crops have been good in Gaspé County; in Bonaventure, hay is not so plentiful. The population of both counties amounted at the last census to 28,000 exclusive of the Magdalen Islands, where there was in 1871, 3,172 inhabitants. The advance of an ordinary winter was confidently expected by the population of Gaspé and Baie des Chaleurs, but the early closing of navigation, which retained in the harbor of Quebec most of the vessels laden with provisions for the lower ports, will no doubt entail a good deal of suffering upon the poorer classes, who depend upon the arrival of these schooners for their winter's supplies.

In speaking of the different fisheries of Gaspé, I shall begin by herring; it being the first carried on at the beginning of the season.

Herring Fishery.

This fishery, which used to be very brisk at one time in Baie des Chaleurs, especially at Bonaventure, Maria and Carleton, where Messrs. Petry, of Sligo, Ireland, had put up establishments in connection with this trade, has now only a secondary importance—these above named gentlemen having closed their house, and there being no market for it. The price of salt and barrels has so much increased as almost to paralyse this branch of industry, even on the Boston markets, whither this fish used to be sent before the establishment of the firm of Petry and Co., at Carleton.

Herring is the first fish to make its appearance on the coasts, where it resorts to spawn. It is noticed in Baie des Chaleurs towards the end of April or beginning of May, and is especially abundant at Carleton, Maria, Bonaventure and Port Daniel. It is also met with, but not in such an abundance, along the coast as far up as Cape Chatte, where it is used as bait for cod fish and for local consumption.

The yield of this fishery for the Counties of Gaspé and Bonaventure during 1873, was 7,543 barrels against 11,537 in 1872.

Cod Fishery.

Cod fishing forms the principal occupation of the inhabitants of this division, from Cape Chatte to Bonaventure.

It is carried on in two ways: by hand and with trawls. The latter instrument consists of bottom lines, to which 100 or 150 hooks are attached, and which are dropped and moored for a certain length of time on the banks, and are occasionally visited.

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From Point St. Peter to Port Daniel hand lines have been almost given up for the trawl or bultow fishing, the latter mode allowing of the fisherman to leave his lines set should rough weather happen. This mode of fishing is greatly praised by those who employ it. The profits appear to be greater, whilst the fish are certainly larger.

Although some places occur on the coast where cod fish was not so abundant as in others, such as from Grand Grêve to Fox River, where the barges caught no more than 50 drafts on an average; still cod fishing may be said to have been very fair. From Grand Etang to Mont Louis such a good season has not been experienced for the past 20 years. At St. Anne des Monts and Cape Chatte cod fish appeared only in July, and gave middling results.

The fishermen of Perce, Grand River and Pabos, who resort to the Orphan's and Miscou banks, apprehended a failure, owing to the disappearance of bait in July; but the fish returned to the banks, and was abundant for the rest of the season. Notwithstanding the prevalence of bad weather since the month of August, these hardy fishermen, whom no sea frightens, can rejoice in having met with equal if not better success than last year. They all agree in saying they seldom saw so many fish and bait on the banks; some boats caught 27 draughts of fish in one day, and several fishermen brought in as many as 100 quintals of fish in a month.

The fearful gale which occurred on the 24th of August caused great damage along the coast, especially from Point St. Peter to Percé, where most of the barges, representing a value of about $12,000, were wrecked. Notwithstanding these losses, to which must be added the rise in the price of salt and fishing gear; notwithstanding the fact that cod sold at a higher figure on foreign markets, its price here was fixed at fifteen shillings, the lowest known for several years past. This remarkable disproportion between the prices paid for cod on the Gaspé Coast and those demanded for goods sold, can only, as I have already said, be most ruinous to the fishermen, and several of them express their intention to emigrate to the north shore, where they hope to improve their position, and to find there a better market and more rest.

The following is a list of vessels employed in this trade, while the statistics at the end of this division will show the amount of fish caught in both counties during this season :—

RETURN of Vessels entered inwards coastways up to 28th October, 1873, for the Port of New Carlisle.

Name of Vessel.	Tons.	Men.	Whence.	Dry Cod Fish.	Cod Roes.	Herrings.	Cod Oil.	Preserved Salmon.	Pickled Fish.	Haddock.	Smoked Herrings.	Pickled Salmon.
				Qntls.	Brls	Brls	Gals	Bxs	Brls	Qtls		
Mary, Star of the Sea....	59	4	Caraquet	476	....	....	....	....	....	....	....	....
Blue Nose.....	7	2	,, ...	.....	....	....	247	....	....	....	....	....
Northern Chief	50	4	Arichat.....	708	....	....	....	....	....	....	....	....
Hematope	76	6	Percé	810	....	....	....	....	....	....	....	....
Northern Chief	50	4	Arichat	644	....	....	....	....	....	....	....	....
Etoile du Matin	71	5	,, ...	995	....	....	....	....	....	....	....	....
Northern Chief	50	4	,, ...	85	....	....	....	....	....	....	....	....
Commander	14	3	Caraquet	.....	....	....	....	....	....	10	....	....
John Stewart.....	65	5	Campbleton....	.....	....	....	....	1068	....	....	....	....
Heroine	104	6	Percé.....	608	....	....	....	....	....	....	....	....
Northern Chief.....	50	4	Margaree	629	....	....	....	....	....	....	....	....
Mary, Star of the Sea....	59	4	Caraquet	400	....	....	....	....	....	....	....	....
Regalia.....	59	4	North Shore	1,560	....	....	....	....	....	....	....	....
Mary, Star of the Sea....	59	4	Percé	396	....	....	....	....	....	....	....	....
Epote	15	3	,, ...	150	....	....	....	....	....	....	....	....
Reaper.....	132	6	Caraquet	1,960	....	....	....	....	....	....	....	....
Dit-on	78	7	Percé	914	....	....	....	....	....	....	....	....
Northern Chief	50	4	Margaree.	686	....	....	....	....	....	....	....	....
Hemetope	76	6	Arichat.....	700	....	....	....	....	....	....	....	....
Hemetope	76	6	,, ...	700	....	....	....	....	....	....	....	....
				12,415			247	1068		10		

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RETURN of all Ships and Vessels entered outwards coastways up to 28th October, 1873.

Northern Chief	50	4	Arichat	430							
Mary	19	3	Pictou	601					50		
Ripple	22	3	Pictou						50		
Ranger	137	9	Percé								
Mary	19	3	Pictou						100		
Adelina	91	6	Bonaventure Island			756	731	435			11
Temperance	60	4	Caraquet								16
				1,031		756	731	435	200		27

RETURN of Vessels cleared outwards with Fish to 28th October, 1873, for the Port of New Carlisle.

Name of Vessel.	Tons.	Men.	Whence.	Cod Fish	Haddock.	Ling.	Herring.	Cod Oil.	Smoked Herrings.	Trout.	Pickled Salmon.	Mackerel.	Pickled Cod Fish.
				Qtls.	Qtls.	Qtls.	Brls.	Gals.	Bxs.	Brls.		Brls.	Brls.
Hebe	236	10	Barbadoes	1,621									
"85"	139	9	Porto Rico	2,293									
Regalia	59	4	Vienna	1,550									
Hematope	76	6	Oporto	1,391									
Homely	229	12	Rio de Sant	3,202	306								
Reaper	137	8	Barbadoes	3,085		77							
G. D. S.	118	7	St. Vincent	935									
Robin	130	9	Bahia	2,109	163								
O. Blanchard	260	12	Barbadoes	2,898	28	20							
Annabella	72	5	Newfoundland						51				
Providence	81	5	do						78				
Union	193	10	Barbadoes	2,745	65	58					2		
Sea Flower	375	15	Jersey	75				247					2
Hebe	236	10	Barbadoes	208									
Marie Georgia	98	6	St. Vincent	523									
Annabella	78	5	Newfoundland						51				
Snow Drop	149	8	Bahia	2,3[illegible]	[illegible]								
Century	181	10	Rio de Janeiro	2,8[illegible]	53								
"85"	139	9	Barbadoes	2,011							4		
Reaper	137	8	Naples	2,950									
Solway Queen	216	8	Rio de Janerio	3,432	31								
C. R. C	248	10	do	3,726	175								
Star of the Sea	65	4	Boston				736					4	
O. Blanchard	260	12	Rio de Janeiro	4,170	63								
Hematope	76	6	Naples	1,276	171	61							
Rosebud	171	8	Rio de Janeiro	2,996									
				48,709	1176	216	736	247	180		6	4	2

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Whale Fishery.

Several years of unsuccess have by degrees deterred the hardy fishermen of Gaspe, who are the only ones in the country given to this pursuit, from continuing their hazardous expeditions; and every season since 1859, when there were as many as 10 of them, the number of vessels equipped for whale fishing has decreased. Three schooners were fitted out in 1872, and three this season; only two of which left, viz:—

Lord Douglas, Capt. Baker, 58 tons, 17 men, ...180 brls. whale oil.
Violet " Suddard, 37 " 17 " .....175 " " "

These two schooners returned with 355 barrels of whale oil, or 105 barrels more than the three vessels engaged in this fishery last year. This success has somewhat revived their hopes, which is very opportune, as owing to successive previous failures they had determined to abandon these expeditions.

These whalers do not in any wise attribute their success to there being a larger number of whales in the Gulf, but simply to the fact that they had finer weather than usual, which enabled them to secure their captures. They must not, however, take the present season as a rule, and count too much on such fine results next year. Bad years invariably follow successful seasons, and I am greatly afraid that our hardy sailors will be, sooner or later, compelled to give up whale fishing for some more lucrative employment, should they not be able to fit out larger vessels and go whale hunting at a long distance from our shores, as I find that these animals are abandoning the waters of the Gulf in larger numbers every year.

Salmon Fishing.

Salmon fishing has wonderfully improved during the last five or six years, and judging from the increase annually noticed in the quantity of fish frequenting our rivers and shores, the desired amelioration will undoubtedly soon leave nothing to wish for, except a more active guardianship, in order to yield a respectable income to the happy owners of fishing stations in particular, and to the trade of our country in general.

The large quantity of breeding fish which was noticed in the fall of 1872 led everyone to hope that the present season would be a remunerative one.

These expectations were not doomed to be disapointed, as never to the knowledge of the oldest fishermen were the rivers or the shores of the counties of Gaspé and Bonaventure visited by such numbers of salmon. Net fishing was very good, and angling successful. The greatest increase was noticed in the Restigouche, Cascapedia and Gaspé divisions, whilst the results of this fishery were most gratifying at Grande Vallée, Cape Chatte and Ste. Anne des Monts, wherefrom poachers have at last been expelled.

All the fishing stations on this part of the coast have yielded double and treble the usual amount of salmon, and the anglers in Ste. Anne des Monts River, who in 1870 caught eight salmon, and thirteen in 1871, caught on an average eighty this year; and I am informed that the spawning beds were visited by large numbers of breeding fish.

Cape Chatte River shows a great increase in trout, but the salmon does not augment in the same proportion. Neither is this to be wondered at, when one considers that they were so destroyed that it will take several years before any improvement is noticed in this stream. The results already attained are, however, very encouraging, and reflect great credit on the Local Fishery Overseer, to whose untiring vigilance and energy is due the disappearance of poachers, who formerly ruined those rivers.

The fly-fishing division of the Magdalen is under lease. It was not, however, angled during last season, but I am informed that the pools were full of breeding fish. The salmon stand at its mouth yielded thirty-three barrels; this is three times its usual quantity.

As the fishery statistics show the large quantity of salmon caught in the rivers of Gaspé, I will merely add that, some stations paying only $3 rent a year, gave, on several occasions, a daily catch of from $50 to $60 worth of fish.

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Mr. Reynolds and party were more successful than in 1872; they landed fifty salmon. His Excellency the Governor General visited Gaspé during the course of the season, and appeared quite delighted with the place. Owing to the short time at his disposal, His Excellency could angle only a couple of days in the Dartmouth, and succeeded in killing two fish.

Three kinds of salmon were noticed this year in the nets. The "round beak," the "pointed beak" and the "spotted salmon," which last species did not visit Gaspé during the previous years. To the actual advantages presented by the rivers of Gaspé, for the reproduction of salmon, the Department has just added other improvements, which will not fail to greatly enhance the natural value of these streams. Men were employed this summer constructing a fish-breeding establishment on the River Dartmouth, which will be completed early next season. Rocks have also been blasted, so as to enable the fish to surmount the falls, and reach a succession of magnificent pools, to which they had heretofore been prevented access. A large quantity of breeding-fish were already noticed in them this fall. Of all the salmon fishing stations, those of Gaspé seem to be the most favored by fortune, and, I may say, by the Department. Most of the fishermen pay but a nominal rent of $3; their stands are at their door; the weather is hardly ever so bad as to prevent them from visiting their nets; and their rivers and stations are under the immediate and special protection of Government officers; an advantageous market is at hand, where they can always dispose of their fresh fish, and to the best advantage. In addition to all these advantages, the Department spares nothing to ameliorate their rivers, thereby procuring to the happy fishermen and settlers of Gaspé an income which increases every year.

Considering the favorable results attained, and the large expenditure incurred in the improvement and protection of salmon fishing generally, I am of opinion that the time has arrived when the Government should profit a little by the prosperity due to its wise policy, by establishing a more uniform mode of rating fishery stations. The intelligent fishermen of Gaspé and other places which I visited, admit that higher rents should be exacted, and would cheerfully consent to pay more, as a compensation for the expenses incurred in their behalf by the Department. Of all the coast of Gaspé, Pabos seems to be the spot which salmon frequent the last. The Fishery Overseer, however, informed me that the pools of Pabos River were full of fish this fall. In those of Grand River, we only counted a small number of breeding fish, from 100 to 140; and in three stations where 36 barrels were formerly caught, only twelve barrels were taken this year. Mr. Clark, who angled in the Grand River, landed only thirty fish; this diminution is attributed to various causes. According to some, it is due to the practice of ostensibly spearing eels, whilst salmon is the fish destroyed; whilst, according to others, the cause of it is attributed to the impurity of the water in the estuary. From the enquiry which I held relative to the disposal of fish offals at the mouth of this stream, I am inclined to share this last opinion, and I feel quite satisfied, that the new arrangements made will, in a very short time, prove whether this hypothesis is correct or not.

In the Bay of Port Daniel, salmon fishing was very satisfactory, one barrel more than last year being caught. With the exception of six barrels, all the fish at Port Daniel were sold to Mr. Brown, to be canned.

Although salmon fishing had been most abundant in the divisions of Cascapedia and Maria, during 1872, it was surpassed this season; the returns show a yield of 296 barrels in Maria, thus exceeding by 10,099 lbs. the results of last year; whilst in the division of Cascapedia, there are 35,363 lbs. against 25,264 in 1872. The canning establishment at Maria put up 96,357 lbs. of salmon.

Anglers on the Bonaventure and Cascapedia Rivers, had good sport, considering their short stay,—they landed thirty-eight fish in three days in the Bonaventure.

Salmon fishing was likewise extraordinarily successful in the Restigouche division. Fish were so abundant that canning establishments had to refuse them, being unable to take the supply and preserve them all. There are three of these establishments on the New Brunswick side; two of which belong to Messrs. Joseph Windsor and George Haddow, of Dalhousie, and the other to Mr. Howick of Carleton.

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At Mr. Windsor's establishment, 134,000 lbs. of salmon were canned; 100,000 at Mr. Haddow's, and 75,000 at Mr. Howick's; forming a total of 309,000 lbs. Adding thereto 60,000 lbs. salted by the fishermen; 18,000 lbs. kept for domestic consumption; 6,000 lbs. consumed during the fishing season, and 8,000, carried off by anglers, gives a total of 92,000 lbs., which, added to the 309,000 lbs. put up in cans, form a grand total of 401,000 lbs. as the proceeds of this year's fishing; exceeding by 131,000 lbs. that of last year's. It must be said to the credit of the proprietors of the canning establishments, that they are always willing and ready to supply any information desired relative to their business, and most anxious to comply with the fishery laws, and have others to do so.

The following notes will show the results of angling on the main Restigouche. Mr. Brydges and party, nine days' fishing, killed 90 fish; Mr. Fleming and party, eight days' fishing, 87 salmon; Messrs. Killaly and Todd, three weeks' fishing, 200 salmon; other rods, 50 salmon. Altogether, 427 fish.

This shows conclusively that the number of salmon which entered the Restigouche for breeding purposes, must have been large, and all the guardians agree in saying that the pools were full of fish. Smolts and grilse have also been noticed in large quantities, which is a sure indication of progress.

Thanks to the energy and vigilance displayed by that worthy Fishery Overseer (Mr. Mowat), no one hardly dared to violate the law; so sure are they that sooner or later they must fall under his watchful eye, and be punished for their misdeeds. With the exception of two or three fines imposed by the above named gentleman and his brother officer, Mr. Phelan, for slight offences, no other disorder of a serious nature occurred in the whole of the Gaspé and Bonaventure divisions. I must, however, except what took place amongst the Indians of Mission Point, of which I shall speak further on.

Unavoidable circumstances prevented me from visiting the fish breeding establishment commenced by the Department, at Robertson's Brook, on the Restigouche. But I feel confident that, with his usual industry and intelligence, Mr. Mowat, who has charge of the same, will achieve ultimate success. Indeed, he informed me that he would be ready early in the fall to secure the fish and collect the spawn.

For several years past, the Department had, in the public interest, endeavored to abolish the injurious and utterly indefensible privilege which the Micmacs of Mission Point enjoyed of spearing salmon in the Restigouche. Money grants, and the choice of the most eligible and valuable stands had been offered them in compensation for this pretended right; but it was only this year that a definite arrangement was arrived at, by which one of the best and most coveted salmon stations, right in front of their reserve, was set apart for their use, and fished for the mutual advantage of the band. The Indian Department generously supplied the nets and a trustee was chosen to fish the station for them. In spite of all these advantages, and of the care evinced on their behalf by the Government, they looked with distrust upon an arrangement, the immediate result of which was to distribute from $1,000 to $1,200 amongst them, and this without any responsibility or work of any kind on their part. Instead of being thankful for this consideration, they spent the winter in grumbling and trying to find means to defeat the ends of the Department. In this, I must say, they were most powerfully assisted by some of the grog sellers and others of the white population of Mission Point, who were directly interested in having the spearing system continued. They therefore made up their minds to defy the authorities and refuse such easy gains, whilst they would at the same time have been enabled to cultivate their farms, or otherwise seek occupation. They also listened with contempt to the judicious remonstrance of their Reverend Missionary. So soon as the first salmon appeared, they were attacked with the spear, whilst others of the band were engaged destroying the nets supplied by the Indian Department, or pulling out the stakes which had been procured at a great cost. All was excitement at the Mission; Fishery Officers were openly defied, and things had a very threatening aspect for a while. Being fortunately advised in time, we reached the locality before too much mischief had been done, and in a short time succeeded in arresting the ringleaders,

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Francis Basquet, Joseph Bernard, Peter Noel and Noel Basque, who, after a regular trial, were found guilty and condemned to prison. The energy displayed in this circumstance had a most beneficial effect. In a meeting which took place afterwards, I succeeded in having them to fully understand the folly of their course, and pointed out to them that their true interests consisted in acting harmoniously with the Government's desires. They understood this, and the Chief signed a pledge, on their behalf, stating that he and his band would comply with the new arrangement, upon which I directed Mr. Mowat to re-set the nets, which have not been disturbed since.

By this injudicious action, the Indians however lost eleven or twelve days, and this too at the height of the fishing. Compared with their neighbors' catch, their actual loss must have amounted to $800 or $1,000 at least. The sum distributed amongst them, after paying expenses, amounts in consequence to only $137.

It is rumoured that, through the exertions of influential persons, the Indians have great hopes of being restored in their former privilege of spearing. I hope, however, that the Department will not listen to such entreaties, but will strictly enforce the carrying out of a wise regulation which, in reality, confers benefits upon the Indians, infinitely more valuable than any indulgence in their former vagabond and destructive habits could possibly convey, even from their own improvident and self-willed point of view.

In cases of disorders or other offences, the Indians generally excuse themselves on their ignorance of the laws. In order to avoid this, I would suggest having posters printed in both languages, containing short extracts of the fishing laws more specially applicable to their cases; these to be placarded on the church door, and in the most conspicuous localities of Mission Point. That, I am sure, would save us an immense deal of trouble. These people require to be tenderly whilst firmly treated, and must not be allowed a single loop-hole to escape, as they are almost sure to take advantage of it.

My last visit to the Indian village of Restigouche has still more convinced me that the system pursued with regard to this class of people is not at all calculated to promote their welfare and moral advancement. These grants and privileges have prevented all agricultural improvements in that beautiful part of the County of Bonaventure, whilst at the same time they have accustomed the Indians to live in a state of dependency, changing them from a strong, energetic and noble race to an unclean, lazy and dissolute class.

Far from me to suggest any new scheme for the preservation or improvement of the Micmac tribe, when I know that persons of more experience and knowledge have already brought this matter under the notice of the Government; but I can express a hope that something may be done to withdraw these Indians from their state of lethargy, and enable them to profit by all the advantages heaped upon them by a kind Providence.

I should now speak of the mackerel and halibut fisheries, but in order to avoid repetitions, I beg respectfully to refer you to the article on the Labrador divisions, where these fisheries are treated of at length.

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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,

COUNTY

No.	NAME OF PLACE.	Vessels.				Fishing Boats.		Flat Boats.		No. of Fishermen.	No. of Shoremen.	Salmon Nets.			Cod Seines.		
		No.	Tons.	Value.	No. of Sailors.	No.	Value.	No.	Value.			No.	Yards.	Value.	No.	Yards.	Value.
				$			$		$					$			$
1	Cape Chatte	1	70	2400	6	25	300	26	200	50	10	1	300	50			
2	Ste. Anne des Monts	3	182	15200	14	62	960	46	616	124	23	2	600	96	1		200
3	Rivière Claude					10		6		15	10						
4	Rivière à Pierre					8		4		16	16				1		
5	Mont Louis					27		43		65	41	2					
6	Anse Pleureuse																
7	Ruisseau des Olives					4		4		8	8	1					
8	Gros Mâle					6		3		12	12	1					
9	Manche d'Epée					8		8		10	12						
10	Madeleine River					7		4		7	7	4					
11	Grande Valée					29		15		58	22	2			1		
12	Grand Etang					20		10									
13	Echourie					4		4		8	4						
14	Pointe Jaune					4		4		8	4						
15	Anse à Valeau					6		6		12	6						
16	Petite Cap					9		9		18	9						
17	Little Fox River					6		6		12	6						
18	Fox River					53		54		106	53						
19	Anse au Gris Fonds					50		50		100	50						
20	Anse à la Louise					17		17		34	18						
21	Cape Rosier					32		32		64	32	2					
22	Ship Head to Grand Grève	1	60		4	43	1620	43	430	86	20						
23	Grand Gréve	4	160		16	19	760	20	200	38	16						
24	Little Gaspé					5	200	10	100	10	4	1	160	60			
25	Cap Aux Os					10	320	15	150	20	10	7	1120	1014			
26	Peninsula	2	100		20	8	336	16	160	32		8	1280	736			
27	North-west Bay	1	50		4	6	192	20	200	16		12	1440	1296			
28	Gaspé Basin	5	310		24	8	336	20	200	16		29	3680	1656			
29	Sandy Beach	5	250		26	8	336	8	80	32		14	2240	1008			
30	Douglastown	4	230		20	35	1120	60	600	70	35	17	4800	1240	2	160	120
31	Percé					139		34		278	224						
32	Bonaventure Island					56		24		102	77						
33	Petite Rivière					29	2030	18	180	58	40						
34	Grande Rivière					82	5740	40	400	164	130	3	700	315			
35	Pabos					58	4060	30	300	116	98	6	2200	990			
36	New Port					88	6160	34	408	176	140	2	500	225			
37	Cape aux Anses & Cape Despair	2	1511	5000	11	55	3850	35	350	110	90	1	250	112			
38	Anse à Beaufils					33	2310	24	240	66	45						
	Total	28	2923	22600	145	969	30680	802	4814	2117	372	115	770	8798	5	160	320

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kind of Nets used, kinds of Fish and Fish Oils, &c., &c.

OF GASPÉ.

NETS AND SEINES.

Herring Seines.			Herring Nets.			Mackerel Seines.			Mackerel Nets.			Capelin Seines.			Launce Seines.			Seal Nets.			Brush Fisheries.	
No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Value.
		$			$			$			$			$			$			$		$
..	....	....	16	640	320	..	....	..	1	30	40	1	....	80	..	....	....	..	....	....	3	50
..	....	....	53	1920	1028	..	....	..	1	80	30	2	....	140	..	....	....	..	....	....	2	40
..	....	....	15	.....	.....	..	....	..	....	.....	....	....	..	....	..	....	....	..	.....	....	.. ..	... .
..	....	....	12	.....	.....	..	....	..	....	.....	....	....	...	....	..	....	....	..	....	....	....	.....
..	....	....	56	.....	....	..	....	..	1	.....	....	2	...	....	..	....	....	..	.....	....	....	.....
.	....	....	8	.....	.....	..	....	..	....	.....	....	....	....	....	..	....	....	..	.....	....	....	.....
.	...	....	9	.....	.....	..	....	....	....	.....	....	....	...	....	..	....	....	..	.....	....	....	.....
.	...	....	9	.....	..	..	....	..	....	.....	....	..	....	....	..	....	..	..	.....	....	....	.....
.	....	....	12	.....	.....	..	....	..	....	.....	....	....	....	....	..	....	....	..	.....	....	....	.....
.	....	....	61	.....	.....	..	....	..	3	.....	....	....	....	....	1	....	....	..	.....	....	....	.....
..	....	....	....	....	....	..	....	..	....	....	....	....	...	....	..	....	....	..	....	....	..	.....
..	....	....	8	.....	.....	..	....	..	3	.....	....	....	....	....	..	....	....	..	....	....	....	.....
..	...	....	8	...	.....	..	....	..	..	.....	....	....	....	...	..	....	....	..	....	....	...	.....
..	...	....	12	.....	....	..	..	..	3	.....	....	1	....	...	..	....	....	..	.....	...	....	.....
..	..	....	18	.....	.....	..	....	....	2	.....	....	....	...	....	..	....	....	..	.....	....	....	.....
..	....	....	12	.....	.....	..	....	..	1	.....	....	1	....	...	..	....	....	..	.....	....	....	.....
2	....	...	120	....	.....	..	....	..	25	.....	....	7	....	....	1	....	....	..	.....	....	....	.... .
..	...	....	100	.....	.....	..	....	..	10	.....	....	3	....	....	..	....	....	..	.....	....	....	.....
..	....	....	34	.....	.....	..	....	..	2	.....	....	....	....	....	..	....	...	..	.....	....	....	.....
1	...	....	74	.....	.....	..	....	..	10	.....	....	7	....	...	..	....	....	..	.....	....	....	.....
..	....	....	43	1390	860	..	....	..	4	120	80	4	100	80	2	60	40	..	.....	....	....	.....
..	....	....	19	560	380	..	....	..	3	105	60	3	90	60	2	60	40	..	... .	....	....	.....
..	....	....	10	300	150	..	....	..	2	70	40	2	60	40	..	...	....	..	. ...	....	....	.....
..	....	....	15	480	180	..	....	..	2	70	40	3	90	60	..	....	....	..	.....	....	....	.....
..	....	....	5	190	110	..	....	..	9	40	28	...	..	....	..	....	...	...	.....	....	....	.....
..	...	....	6	180	120	..	....	..	2	60	30	...	....	....	..	....	....	..	.....	....	....	.....
..	...	....	6	180	120	..	....	..	....	.....	....	....	....	....	..	....	....	..	.....	....	....	.....
..	....	....	8	240	160	1	80	100	....	.....	....	....	....	....	..	....	....	..	...	....	....	.....
3	180	150	40	1200	1280	..	....	....	6	180	192	10	300	400	6	180	144	..	....	....	....	.....
..	. ..	....	275	.....	.....	..	....	....	2	.....	....	5	....	....	1	....	....	..	.....	....	....	.....
..	....	....	114	.....	.....	..	....	....	7	... .	....	2	....	....	2	...	....	..	.....	....	....	.....
..	.. .	.. .	60	2400	840	..	....	....	....	.....	....	4	200	160	..	....	....	..	.....	....	....	.....
..	....	....	170	6800	2380	..	....	....	....	.....	....	13	660	520	..	....	....	..	.....	....	....	.....
..	...	....	120	4800	1680	..	....	....	....	.....	....	13	660	520	..	....	....	..	.....	....	....	.....
..	....	....	180	7600	2520	..	....	....	....	.....	....	11	570	440	..	....	....	..	.....	....	....	.....
..	....	....	120	4800	1680	..	....	....	6	2040	90	12	600	500	..	....	....	..	... .	....	....	.....
..	....	....	70	2800	980	..	....	....	....	.....	....	6	300	250	..	....	....	..	.....	....	....	.....
6	180	150	1898	36480	14788	1	80	100	105	2795	630	112	3630	3250	15	300	224	..	.....	....	5	90

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Return of Fishing Stations, kinds of Vessels, number of Men

COUNTY OF

No.	Name of Station.	Salmon, barrels (cured).	Salmon (fresh in ice), lbs.	Salmon (in cans), lbs.	Salmon (smoked), boxes.	Summer Fishing. Cod, quintals.	Fall Fishing. Cod, quintals.	Haddock, quintals.	Ling, quintals.	Halibut, barrels.	Herring, barrels.
1	Cape Chatte	18	.....	.....	....	1000	295	.....	.....	....	4
2	Ste. Anne des Monts	31	.....	.....	....	3840	450	.....	.....	....	23
3	Rivière Claude	....	.....	.....	....	280	.....	.....	.....	....	15
4	Rivière à Pierre	....	.....	.....	....	200	40	.....	.....	1	12
5	Mont Louis	37	.....	.....	....	2278	330	.....	.....	14	100
6	Anse Pleureuse	12	.....	.....	....	80	.....	.....	.....	2	15
7	Ruisseau des Olives	....	.....	.....	....	85	.....	.....	.....	1	12
8	Gros Mâle	11	.....	.....	....	150	.....	.....	.....	....	12
9	Manche d'Epée	....	.....	.....	....	200	.....	.....	.....	....	30
10	Madeleine River	33	.....	.....	....	65	.....	.....	.....	....	5
11	Grand Vallée	5	.....	.....	....	1910	375	.....	.....	....	33
12	Grand Etang	....	.....	.....	....	2000	200	.....	.....	.....	.....
13	Echourie	...	.....	.....	....	200	60	.....	.....	....	8
14	Pointe Jaune	....	.....	.....	....	200	60	.....	.....	..	6
15	Anse à Valeau	....	.....	.....	....	130	90	.....	.....	....	8
16	Petite Cap	....	.....	.....	....	450	135	.....	.....	...	16
17	Little Fox River	...	.....	.....	....	300	90	.....	.....	....	12
18	Great Fox River	....	.....	.....	....	3080	700	.....	.....	....	95
19	Anse au Gris Fonds	....	.....	.....	....	2500	1000	.....	.....	....	225
20	L'Anse à la Louise	....	.....	.....	....	765	340	.....	.....	....	25
21	Cape Rosier	....	.....	.....	....	1280	480	.....	.....	4	100
22	Ship Head to Grand Grève	....	.....	.....	....	2310	.....	.....	.....	.....	100
23	Grand Gréve and Cap aux Os	12	.....	.....	....	1140	.....	.....	.....	....	280
24	Little Gaspè	....	.....	.....	....	150	.....	.....	.....	....	50
25	S. W. River	....	.....	.....	....	300	.....	.....	.....	....	100
26	Peninsula and Lobster Cove	61	.....	.....	....	10	.....	.....	.....	....	40
27	North-west Bay	82	.....	.....	....	50	.....	.....	.....	....	50
28	Gaspé Basin	145	.....	.....	....	10	.....	.....	.....	....	40
29	Sandy Beach	28	.....	.....	....	60	.....	.....	.....	....	100
30	Douglastown	44	.....	.....	....	1750	.....	.....	.....	....	100
31	Percé and Malbay	34	.....	.....	....	11086	2888	.....	.....	...	89
32	Bonaventure Island	....	.....	.....	....	2806	818	.....	.....	.....	58
33	Petite Rivière	....	.....	.....	....	2030	1160	100	...	10	200
34	Grande Rivière	10	.....	.....	....	5265	2430	310	....	18	300
35	Pabos	44	.....	.....	....	3880	1650	43	....	18	230
36	New Port	11	.....	.....	....	5280	3080	170	....	20	250
37	Cap aux Anse and Cape Despair	2	.....	.....	....	4425	2200	150	....	5	400
38	Anse à Beaufils	....	.....	.....	....	2000	990	100	...	5	200
	Total	680	.....	.....	....	63345	19858	875	....	95	3343

RECAPITU

VALUE OF THE DIFFERENT

			$ cts.	$ cts.
Summer Cod-fishery	63,345 quintals, at		4 00	253,380 00
Autumn do	19,858 do		5 00	99,290 00
Cod tongues and sounds	172 barrels		8 00	1,376 00
Haddock Fishery	875 quintals		5 00	4,375 00
Mackerel do	643 barrels		10 00	6,430 00
Herring do	3,343 do		3 00	10,029 00
Halibut do	95 do		5 00	475 00
Salmon do	680 do		16 00	10,880 00
Trout do	32 do		10 00	320 00

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kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.

GASPE.

Smoked Herring, boxes.	Mackerel, barrels.	Trout, barrels.	Sardines, barrels.	Eels, barrels.	Tunney, barrels.	Cod Tongues and Sounds, barrels.	No. of Seals.	No. of Seal skins.	No. of Whales.	No. of Porpoises.	Oils. Seal oil, gallons.	Whale oil, gallons.	Porpoise oil, gallons.	Cod oil, gallons.	Fish used as Manure. Herring, barrels.	Capelin, barrels.	Smelt, barrels.	Cod roes, barrels.
2	.....	5	....	....	....	....	.....	.....	....	....	.....	....	40	180	.....	200	....	....
4	.....	4	....	....	....	....	.....	.....	....	....	100	....	100	898	.....	30	....	....
....	.....	....	....	....	....	....	.....	.....	....	....	.....	....	....	50	.....	50	....	....
.....	.....	....	....	....	....	....	.....	.....	....	....	.....	....	....	120	....	10	....	....
.....	6	2	....	....	....	3	.....	.....	....	....	.....	....	....	800	.....	.....	....	....
.....	.....	....	....	....	....	....	.....	.....	....	....	.....	....	....	30	.....	.....	....	....
.....	.....	....	....	....	....	....	.....	.....	....	....	.....	....	....	35	.....	.....	....	....
.....	.....	....	....	....	....	....	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....
.....	2	....	....	....	....	....	.....	.....	....	....	.....	....	....	150	.....	30	....	....
.....	.....	....	....	....	....	....	.....	.....	....	....	.....	....	....	41	.....	.....	....	....
.....	2	5	....	....	....	....	.....	.....	....	....	.....	....	....	1225	.....	.....	....	....
.....	.....	....	....	....	....	....	.....	.....	....	....	.....	....	....	130	.....	.....	....	....
.....	7	....	....	....	....	....	.....	.....	....	....	.....	....	....	130	.....	.....	....	....
.....	.....	....	....	....	....	....	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....
.....	6	....	....	....	....	2	.....	.....	....	....	.....	....	....	195	.....	.....	....	....
.....	4	....	....	....	....	....	.....	.....	....	....	.....	....	....	305	.....	.....	....	....
.....	12	....	....	....	....	1	.....	.....	....	....	.....	....	....	195	.....	.....	....	....
.....	27	....	....	....	....	4	.....	.....	....	....	.....	....	....	2225	.....	.....	....	....
.....	.....	....	....	....	....	....	.....	.....	....	....	.....	....	....	1500	.....	.....	....	....
.....	.....	....	....	....	....	2	.....	.....	....	....	.....	....	....	600	.....	.....	....	....
.....	8	....	....	....	....	8	.....	.....	....	....	.....	....	....	1720	.....	.....	....	....
.....	30	....	....	....	....	....	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....
....	40	....	....	....	....	....	.....	.....	....	....	.....	....	....	1800	.....	.....	....	....
.....	20	....	....	....	....	....	.....	.....	....	....	.....	....	....	1000	.....	.....	....	....
.....	30	4	....	....	....	....	.....	.....	....	....	725	....	....	100	.....	.....	....	....
.....	10	4	....	....	....	....	.....	.....	....	....	5700	....	....	200	.....	.....	....	....
....	60	3	....	....	....	....	.....	.....	....	....	.....	....	....	60	.....	.....	....	....
.....	20	5	....	....	....	....	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....
.....	200	....	....	....	....	....	.....	.....	....	....	5267	....	....	60	.....	.....	....	....
....	50	....	....	....	....	....	.....	.....	....	....	.....	....	....	1500	.....	.....	....	....
10	3	....	....	....	....	2	.....	.....	....	....	.....	....	....	11760	.....	.....	....	....
.....	6	....	....	....	....	10	1	.....	....	....	.....	....	....	2271	.....	.....	....	....
.....	10	....	....	....	....	10	.....	.....	....	....	.....	....	....	1970	.....	60	....	....
....	25	....	....	....	....	40	.....	.....	....	....	.....	....	....	4800	.....	150	....	....
.....	15	....	....	10	....	20	.....	.....	....	....	.....	....	....	2860	100	1500	100	....
.....	10	....	....	....	....	30	.....	.....	....	....	.....	....	....	5120	200	3000	50	....
.....	30	....	....	....	....	30	.....	.....	....	....	.....	....	....	3880	.....	200	....	....
.....	10	....	....	....	....	10	.....	.....	....	....	.....	....	....	1850	.....	100	....	....
16	643	32	....	10	...	172	1	.....	....	...	11792	....	140	49760	300	5330	150	...

LATION.

FISHERIES OF GASPÉ DIVISION.

		$ cts.	$ cts.
Cod oil	49,760 gallons	0 50	24,880 00
Whale oil		0 80	
Porpoise oil	140 gallons	0 80	112 00
Fish (for manure)	5,780 barrels	0 25	1,445 00
Total value of the products of the Fisheries, 1873			412,992 00
do do do 1872			541,471 00
Decrease			128,479 00

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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men

COUNTY OF

No.	NAME OF PLACE.	Vessels.				Fishing Boats.		Flat Boats.		No. of Fishermen.	No. of Shoremen.	Salmon Nets.			Cod Seines.		
		No.	Tons.	Value.	No. of Sailors.	No.	Value.	No.	Value.			No.	Yards.	Value.	No.	Yards.	Value.
				$			$		$					$			$
1	Anse au Gascon	...	....	.....	....	12	864	15	180	30	....	13	3794	1659	..	...	...
2	Anse à Barbe	...	....	.....	....	4	288	12	144	16	....	..	.....	.....	..	...	...
3	Port Daniel	...	....	.....	....	25	1800	50	600	70	....	...	.....	.....	..	...	...
4	Chiqouac	...	....	.....	....	4	280	10	120	18	....	...	.....	.....	..	...	...
5	Nouvelle	...	....	.....	....	23	1656	20	240	46	....	...	.....	.....	..	...	...
6	Paspebiac	...	....	....	....	15	1080	20	240	30	113	...	.....	.....	..	...	...
7	New Carlisle	...	....	.....	....	15	600	15	150	30	113	...	.....	.....	..	...	...
8	Grand and Little Bonaventure	...	....	....	....	52	4160	52	520	104	52	...	860	430	..	...	...
9	Capelin, Black Cape and New Richmond	...	....	.....	...	7	240	3	36	14	7	...	3940	1970	..	...	...
10	Maria	...	....	.....	....	3	75	23	230	26	....	12	3855	1928	..	...	...
11	Carleton	...	....	.....	....	4	100	19	190	22	....	7	2720	1360	..	...	...
12	Nouvelle	...	....	.....	....	3	75	12	120	13	....	1	800	400	..	...	...
13	Maguasha	...	....	.....	...	....	.....	2	25	2	...	2	300	150	..	...	...
14	Fleurants Point	...	....	.. ...	...	....	.....	2	... .	4	..	...	1200	.....	..	...	...
15	Englishman's Brook	...	....	....	...	....	.....	1	.....	1	....	...	360	.....	..	...	...
16	Escuminac Point	...	....	.....	....	...	.....	1	.....	1	....	...	300	.....	..	...	...
17	Pt. à la Garde	...	...	.....	....	...	.....	1	.. ..	2	....	...	400	.....	..	...	...
18	Battery Point	..	....	.....	....	....	.....	1	.....	1	....	...	140	.....	..	...	...
19	Little Battery	...	....	.....	....	....	.....	1	.....	1	....	...	150	.....	..	...	...
20	Cross Point & Mission Point	...	....	.....	.....	....	.....	1	.....	2	....	...	360	... .	..	...	...
21	Bourdon Point	...	....	.....	...	...	... .	2	...	3	....	...	900	.....	..	...	...
	Total	...	..	.....		167	112'8	263	2795	436	285	35	198'9	7897	..	...	...

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kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Continued.*

BONAVENTURE.

NETS AND SEINES.

Herring Seines.			Herring Nets.			Mackerel Seines.			Mackerel Nets.			Capeli Seines.			Launce Seines.			Seal Nets.			Brush Fisheries	
No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Value
		$			$			$			$			$			$			$		$
...	...	....	36	1440	540	..	....	....	....	....	....	4	160	160	...	....	....	..	....	....	....	....
...	.....	....	24	960	360	..	....	....	....	.....	....	3	120	120	...	....	....	..	.....	....	....	....
...	.....	....	70	2500	900	..	....	....	....	.....	....	6	240	240	...	....	....	..	.....	....	....	....
...	.....	....	20	700	250	..	....	....	....	.....	....	3	120	120	...	....	....	..	.....	....	....	....
...	.....	....	40	1600	601	..	....	....	....	.....	....	3	120	120	...	....	....	..	.....	....	....	....
9	380	381	20	800	301	..	....	....	15	540	180	6	240	240	...	....	....	.	.....	..	....	....
9	380	381	15	590	180	..	....	....	15	540	180	17	980	510	...	....	....	..	.....	....	....	....
25	1000	750	52	1669	624	..	....	....	52	1669	624	14	720	420	...	....	...	..	.....	....	....	....
7	280	84	7	250	84	..	....	....	7	250	84	1	36	32	...	..	....	..	....	....	....	....
192	5760	1150	....	....	...	..	....	....	....	.....	....	....	.....	....	....	....	....	..	.....	....	4	16
168	4040	808	....	....	.....	..	....	....	....	.....	....	2	40	25	...	....	....	..	.....	....	1	4
80	2400	480	....	....	.....	..	....	....	....	.....	....	....	.....	....	....	....	....	..	.....	....	....	....
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490	14240	4034	284	10509	3840	..	....	....	89	2999	1668	59	2776	1987	...	...	....	..	.....	....	5	20

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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,

COUNTY OF

No.	NAME OF STATION.	Salmon, barrels (cured).	Salmon (fresh in ice), lbs.	Salmon (in cans), lbs.	Salmon (smoked), boxes.	Summer Fishing. Cod, quintals.	Fall Fishing. Cod, quintals.	Haddock, quintals.	Ling, quintals.	Halibut, barrels.	Herring, barrels.
1	Anse au Gascon	6									
2	Anse à Barbe			700							
3	Port Daniel	54		17300		3050	3015				1950
4	Chiqouac										
5	Nouvelle										
6	Paspebiac					600	1200	35	6		250
7	New Carlisle										
8	Grand and Little Bonaventure		1920			1200	2000	45	10		1500
9	Capelin, Black Cape and New Richmond	6	38443			105	140	3			500
10	Maria	20	45400			15					
11	Carleton		10278			40	10				
12	Nouvelle		9846			50	15				
13	Maguasha		15625								
14	Fleurants Point		10500								
15	Englishman's Brook		600								
16	Escuminac Point		600								
17	Pt. à la Garde		8000								
18	Battery Point		1000								
19	Little Battery		900								
20	Cross Point and Mission Point		14598								
21	Bourdon Point		11200								
	Total	86	163910	18000		5060	6380	83	16		4200

Only about 15,000 lbs of lobsters

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kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Continued.*

BONAVENTURE.

Smoked Herring, boxes.	Mackerel, barrels.	Trout, barrels.	Sardines, barrels.	Eels, barrels.	Tunny, barrels.	Cod Tongues and Sounds, barrels.	No. of Seals.	No. of Sealskins.	No. of Whales.	No. of Porpoises.	Oils. Seal oil, gallons.	Whale oil, gallons.	Porpoise oil, gallons.	Cod oil, gallons.	Fish used as Manure. Herring, barrels.	Capelin, barrels.	Smelt, barrels.	Cod roes, barrels.
....	....	....	....	....	....	....	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....
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....	....	....	....	....	....	....	.....	.....	....	....	.....	....	....	5700	500	1400	....	....
....	....	....	....	....	....	....	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....
....	....	....	....	....	....	....	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....
....	10	....	....	....	....	16	.....	.....	....	....	.....	....	....	15	.....	1000	....	....
....	15	2	....	....	....	10	.....	.....	....	....	.....	....	....	2500	2000	3000	....	....
....	2	3	....	....	....	....	.....	.....	....	....	.....	....	....	120	300	.....	....	....
500	....	....	....	6	....	....	.....	.....	....	....	.....	....	....	20	270	50	....	....
300	....	....	....	2	....	....	.....	.....	....	....	.....	....	....	70	60	60	....	....
....	....	....	....	....	....	....	.....	.....	....	....	.....	....	....	.....	160	15	....	....
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800	27	5	....	8	....	26	.....	.....	....	....	.....	....	....	8425	3290	7525	....	....

were put up this season

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RECAPITULATION.

VALUE OF THE DIFFERENT FISHERIES OF BONAVENTURE DIVISION.

		$ cts.	$ cts.
Summer Cod fishery	5,060 quintals, at	4 00	20,240 00
Autumn do	6,380 do	5 00	31,900 00
Cod tongues and sounds	26 barrels	8 00	208 00
Haddock fishery	83 quintals	5 00	415 00
Ling do	16 do	5 00	80 00
Mackerel do	27 barrels	10 00	270 00
Herring do	2,000 do	3 00	12,600 00
Salmon do	86 do	16 00	1,376 00
do fresh in ice	163,910 lbs.	00 05	8,195 00
do cans	18,000 cans	00 25	4,500 00
Trout fishery	5 barrels	10 00	50 00
Eels	8 barrels, at	10 00	80 00
Smoked herring	800 boxes	25	200 00
Cod-oil	8,425 gallons	50	4,212 00
Fish (for manure)	10,815 barrels	25	2,703 00
Preserved Lobsters	15,000 lbs.	15	5,825 00
Total value of the products of the Fisheries, 1873			87,029 00
do do 1872			120,970 00
Decrease			33,941 00

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LABRADOR DIVISION.

The great barrenness of the coasts in this division, which extends from Point des Monts to Blanc Sablons, will probably always be a barrier to a large emigration, and to the establishment of flourishing parishes similar to those of the South shore. The numerous expeditions which are, however, fitted out every season to engage in the fisheries along the coast and in the rivers of this division, are becoming more and more considerable; and the new industry—consisting in the purification of magnetic sand—which seems already to be drawing the attention of English and American capitalists and manufacturers, gives it an importance never reached before. If the experiments made this year are successful, the coast of Labrador will undoubtedly soon rival the other divisions of the Gulf. This coast comprises two divisions, one commonly known as "North-shore," extending from Point des Monts to Natashquan, and the other designated "Labrador," ranging from Natashquan to Blanc Sablons. These divisions, for the better protection of the rivers and fisheries in general, contain seven sub-divisions, which are :

Trinity,
Moisie,
St. John's River.
Watsheeshoo River,
Natashquan,
Pocachoo of Whale Head,
Bonne-Esperance.

In each of these localities, there are fishery overseers and local guardians, whose business it is to look after the enforcement of the Fisheries Act. These officers are under the immediate control of the Commander of *La Canadienne*, who is responsible to the Department of Marine and Fisheries for the good or bad management in their respective divisions of all matters pertaining to the fisheries.

Not to repeat what has already been said last year about the North shore, it will be sufficient to state that the waters of this coast were renowned more than a hundred years ago for their wealth in fish; but whale and walrus fishing, and fur hunting were the only pursuits carried on, and this also on that part designated as the coast of Labrador. Later on, a few families came and settled along this division, at different spots called "King's Posts," for the purpose of engaging in salmon fishing and seal hunting, and it is only of late years that cod fishing has been practised on the western part of this coast. This latter pursuit has, in a great measure, restored the prosperity lost by the disappearance of the seals. The wealth of this coast becoming more widely known, and the great advantages which it offered to fishermen being better appreciated, the current of settlers grew larger, and since nine or ten years ago the emigration thither has swelled the number of inhabitants to about 9,000 souls. In 1852, the total population was 1,408, and in 1861, 4,413. This spring, forty families from Newfoundland, attracted thither by the successful fishing of past years, and the facility for carrying it on, have settled in Mutton Bay, Netagamu and Kegashka. A large colony of Acadians from the Magdalen Islands is also growing at the Seven Islands.

That part of the coast between English Bay and Ste. Marguerite's River will soon also have its share of Acadian emigration from the Magdalen Islands. Whilst at Seven Islands I heard that several families intended settling there, and I may say that their choice is a most judicious one, as cod and halibut are most abundant along this part of the coast, whilst the harbors are excellent and the markets near at hand.

The other more important settlements in this division, such as Moisie, St. John's, Sheldrake, Magpie, Esquimaux Point and Natashquan have received their fair quota of emigration from the south shore, especially from Bay des Chaleurs, Gaspé and Rimouski.

Since the dissolution of the celebrated Lymburner Company, and the expiry of the Hudson's Bay Company's lease, the fishermen and settlers on this part of the coast had never been troubled; but now that the Mingan Seigniory has passed into new hands, it appears that they have demanded a rent of $500 *per annum* from certain fishing firms.

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Great anxiety was naturally felt at first, but since it became known that the largest and most influential firms had clubbed together in order more effectually to seek legal redress, and had flatly refused payment of the rent demanded, the excitement has naturally subsided. Should this company be recognized as the legal owners of the Seigniory of Mingan, I am led to believe that the gentlemen composing it, and who belong to the upper commerce of Montreal, have too much sense and charitable feeling to compel fishermen to pay a rental which their limited means render it impossible for them to do. This would not only ruin the fishermen, but also eventually affect the character of the company most seriously.

A gale, which occurred in November last, caused serious damage at Esquimaux Point, Magpie and Moisie, and it took considerable time this spring and several hundred pounds to repair the damage. Vessels from the Maritime Provinces, Newfoundland and the United States repair in large numbers to the shores of this division, some for trading purposes, others for cod, mackerel or halibut fishing. The traders (or coasters) are mostly from Quebec and Halifax, and keep up a competition which is altogether in favor of the fishermen.

Notwithstanding the presence of so many strangers on the coast, and the different, I could almost say, antagonistic kinds of business carried on, scenes of disorder are very scarce. During the course of *La Canadienne's* visits to the different parts of the north shore, I had occasion to enquire into this matter, and I can only say that both the settlers and strangers behaved remarkably well.

The coast of Labrador is now visited regularly each summer by a stipendiary magistrate, but I conceive that his services will be fully appreciated only when he is made to reside amongst those to whom he administers justice. How can the Government expect that the object in view will be met when the magistrate resides hundreds of miles from the principal settlements of the coasts and only visits them once a summer, and this also at a time when most persons who might have cases to bring before him are away busily engaged fishing and earning bread for their families. Means of communication which formerly were so scarce and difficult are now comparatively easy. Two steamers, the *Margaretta Stevenson* and the *Beaver*, ply weekly during the summer between Quebec and Moisie, while another steamer, the *Ariel*, makes a bi-weekly trip for the accommodation of anglers from Quebec to Natashquan, stopping also wherever passengers or freight are to be taken on board. Two schooners belonging to Captain Narcisse Blais, of Berthier, make besides three regular trips between Quebec and Blanc Sablons, stopping at all the settlements to the great convenience of every one. Five or six other schooners trading between Halifax and the Labrador coast also make regular trips between that city and these shores. There is besides a packet chartered by the Post Office Department of Canada, which carries the mails twice a month, and performs regular trips between Gaspé and the north shore, touching also at the east and west points of Anticosti, so that all the localities on the coast of Labrador can now be visited with comparative ease and rapidity and at regular periods.

Whilst speaking of the different kinds of fish frequenting the waters of the coast of Labrador, I shall have occasion to revert to certain subjects that are now only just alluded to. Cod fishing being the first in importance and revenue, it will form the subject of the following paragraph on the fisheries of the north shore.

Cod Fishery.

The catch of cod fish was most abundant this year on the north shore and Labrador; to such an extent, in fact, that in many places fishermen found themselves short of salt, although they had made large provisions in the event of having a good catch. At Natashquan, Sand Point, St. John's River, Magpie, Thunder River and Sheldrake, the fishing was not, however, so good. Still it cannot be said that cod was less abundant, but bait failed. The greatest sufferers were those who fished on their own account and who had to lose considerable time in search of bait at remote distances from the banks; these boats will not, therefore, average more than forty quintals. The barges engaged fishing for large firms did well, some of them being constantly employed looking for bait; so that

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this class of boats will average about 100 quintals for the summer fishing. The places most frequented by cod were the shores of the Trinity Bay division and the Moisie banks, where fish and bait were abundant during the whole of the summer. The boats there average from 150 to 160 quintals each. Cod fish was also plentiful on the Labrador coast from Kegashka to Blanc Sablons, and a much larger quantity would have been caught had not the supply of salt failed. Some fishermen are certainly to blame for their indifference and negligence in timely providing themselves with salt, that most necessary ingredient in the preparation of fish. But such a reproach can scarcely be now applied to the fishermen on the coast of Labrador. A couple of years of famine and misery has taught them to think seriously of the future. They have learnt to be economical, and to provide everything necessary to enable them to earn a livelihood for themselves and families. They were all provided with salt this spring, and whenever a want of this necessary article was felt it was due to an accident or some delay in arrival of schooners. Fall cod fishing is not carried on largely on the north shore, most of the men leaving after summer fishing to attend to their farms on the south shore; and those who remain, instead of venturing out in the rough season of the year, are engaged in supplying their homes with fire-wood for winter use, or in some other like less perilous pursuit.

Although I have in previous reports spoken of the difference in price of cod fish on the north and south shores, I feel I must once more revert to this subject, and explain why the fishermen of the north shore appear to be in a better position than those of the south shore, and enjoy a more independent status than their brethren of Gaspé.

The very places on the north shore, where the greatest uneasiness prevails, are between Mingan and Moisie where the catch was poorest, and the Jersey truck system carried on, and where traders find difficult access. The fishermen cannot improve their position, when the price of fish is fixed at such a low standard as it was this year, when goods, salt and everything required in fishing pursuits, were sold at exorbitant prices, whilst cod fish is at the same time bringing remunerative prices in foreign markets. A cargo of dry fish was sold at Bahia, Brazil, this spring with a profit of nearly four dollars per quintal to the owner!

From Natashquan to Blanc Sablons the situation is different; traders, as I said before, are more moderate in their desires, and paid this year from sixteen to seventeen shillings cash for cod, and goods were disposed of merely to cover the freight, and at a small advance on the commission. No difference is made as to the quality of fish; good and indifferent sell alike, while on the south shore a systematic sorting is exacted, so that it often occurs that half the catch of a poor man is rejected as culled fish. This quality is often bought at ridiculously low rates, and afterwards sold in foreign markets, at the same rates as fish of the first quality. This is why the fishermen of the north shore are better off than those living on the south shore. Such a state of things must not, however, be taken as a general rule, but the practice is altogether too prevalent among some of the wealthiest firms.

The fishermen of Esquimaux Point do not prosecute their calling in barges, but practice it in the same manner as the Americans. They leave their schooners for the banks where codfish is to be found, anchor their vessels in safety, and proceed to the Islands in small boats, making four or five trips daily. Twenty schooners from the Point, manned by ten or twelve men each, were thus employed during the season, and some of them succeeded in making two trips.

Cod fish was found everywhere along the north shore three weeks later than usual. This is attributed to the temperature of the water, which remained cold for a long time on account of the ice.

The quantity of cod fish taken during 1873 in this division, without reckoning that taken by foreign vessels, which is considerable, amounts to 92,800 quintals. In 1851 it amounted to 9,980 quintals, and in 1861 to 51,668. But it is impossible to give exact statistics of the quantity of cod fish taken in this division; there being a number of schooners which repair to small harbors where *La Canadienne* cannot enter in time to

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procure the neccessary information, but I was able to board several at Mutton Bay, when just taking in their cargoes, and I now give their names.

Name of Vessel.	Tonnage.	Name of Master.	Port of Registry.	Number of Men.	Number of Nets.	Number of Seines.	Quintals of Cod fish.
Juanita	29	Killan	Point au Basque	8	3	.....	160
Sarah Jane	15	Farey	St. George's Bay	5	2	.....	70
Galantine	21	Diaz	Sydney	6	2	.....	160
Catherine	21	Morgan	Petiter	7	2	1	190
Flash	40	J. Gresley	Newfoundland	7	2	.....	200
Mary Margaret	36	Ketsbetum	do	7	2	.....	170
Summer	33	W. Janet	do	7	2	1	200
Eureus	33	Spencer	do	8	2	1	200
Trial	26	Hawle	do	6	2	.....	100
Prince Albert	29	Hickman	do	8	3	.....	40
Lila	31	Howell	do	9	3	1	150
Rocket	18	Everitt	Bay of Islands	6	3	1	120
David	29	Steele	Newfoundland	6	3	1	100
Brothers	21	Lasse	Point au Basque	9	3	.....	40
Mineta	34	Farcey	do	9	3	1	200
Young Brothers	40	Young	Scatari	9	3	1	200
Bride	26	Harvey	Point au Bosque	6	3	1	100
Lady Bird	36	Petigrove	Bay of Islands	8	3	1	73
Star	45	Varty	Newfoundland	9	4	.....	120
Lark	36	Hartman	do	7	4	1	100
Sea Serpent	30	Capius	do	6	4	1	100

The statistics accompanying this report give the details of the value of the hand-line fishing in the different localities where it was carried on.

Salmon and Trout Fishery.

If salmon does not rank first among the sources of revenue of the north shore, it certainly comes next, especially that during the last few years the wise regulations made for the protection of our rivers and streams have re stocked them to such an extent that even the hopes of those persons who labored for the amelioration of salmon streams are surpassed.

The large number of breeding fish noticed last year in the pools of nearly all the rivers gave great hopes of a good season in 1873, but nobody ever presumed to expect that in some localities it would double the catch of 1872. Such was the case, however, and everywhere, from Point des Monts to Blanc Sablons, there never had been such a catch for many years before.

The fishing in the estuaries of the rivers has been abundant, and all along the coast, especially from Natashquan to Blanc Sablons, it has been double what it was during the previous season. In Natashquan, 400 barrels of salmon were caught in thirteen days, and during the best part of the season, the lessee of the river was obliged to take up his nets for eight days for want of salt. As many as 1,600 salmon were caught in a day in Natashquan river, and at the date the nets were taken up, 900 and 1,100 was the daily average. The lessee of the net-fishing privilege, owing to some misunderstanding with the salmon fishing company, which had contracted beforehand with him for all the salmon he might catch so as to can it fresh, not having provisioned himself with sufficient barrels and salt, lost the best part of the fishing, and he will, therefore, be a heavy loser on that account. It was, no doubt, a cause of great annoyance to the lessee to have to take up his nets just at a time when salmon were coming up the river by thousands, but this loss will be easily recovered another year, as so many fish were enabled to reach the spawning

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beds that we may fairly predict a good season. The catch in the other rivers of the Natashquan and Watsheeshoo divisions, such as "Agwanus," "Nabisippi," "Watsheeshoo," "La Corneille," etc., has doubled. St. John's River gave this year 198½ barrels or 59,489 pounds against 164 barrels or 49,200 pounds last season, shewing an increase for 1873 of 34 barrels or 10,289 pounds. At Moisie, salmon fishing has been better this year than last. The same remark applies to all the stations about Moisie and Trinity. Mr. Holliday still continues to supply our markets with fresh salmon. Owing to the ingenious method employed by him for the last three or four years of freezing fresh salmon, these fish can be bought at all seasons of the year having the same taste and flavour as if coming fresh out of the water. Apart from Moisie salmon, Mr. Holliday purchased all that is caught in the Trinity and St. John's River. He had two schooners constantly employed during the season taking the salmon from these places to Moisie, so that the fishermen who sold their fish to this enterprising gentleman at six cents a pound realized good profits. Mr. Holliday formerly had an establishment at Natashquan for canning salmon, but the "St. Lawrence Fishing Company" having made a contract with the present lessee, he has abandoned it.

The Fishery Overseers of all the divisions on the North coast say that the pools in the several rivers cannot be better stocked than they were this fall, so that unless extraordinary circumstances prevent it, we may confidently look to another good season in 1874. If net fishing was good, angling has also been most successful, as is apparent by the sport and satisfaction of those addicted to this noble and agreeable pastime. The success of fly-fishing depending in most cases on the temperature of the water or atmosphere, on the more or less limpidity of the stream, the rise or fall of the river, it may sometimes occur that with a large amount of fish in a stream they will not take the fly; this year, however, everything was in favor of anglers, who were able to secure great sport in a few days. Among the persons who repaired to the North shore for the purpose of angling, I make bold to mention the visit of His Excellency the Governor-General to the Mingan River. His Excellency had already landed several salmon and trout, when the accidental drowning of one of his servants curtailed his stay, and decided him to leave the place. Let us hope that next season nothing will occur to mar the few days' holiday which our popular Governor-General has so much right to enjoy, to relieve himself from the fatigues of his most responsible and arduous duties. Another most lamentable accident occurred at Natashquan. Mr. McFarlane, of Montreal, and his nephew, Mr. Thomson, from Scotland, had been fly fishing on the 2nd of July, at the fourth falls. In coming down the river, they risked themselves in a canoe, in a most dangerous rapid where they had never yet been. Unluckily, the canoe steering badly, came broadside to the current and capsized. These two unfortunate gentlemen and their men were carried down by the fierce current, and one only—a canoeman—was able to gain a rock in the middle of the river, where he remained thirty-six hours before help came. It was several days after that the other bodies were found.

I took all possible information while on the Labrador coast to know if any violations of the Fisheries Act had been committed, but had only to punish one man, Edouard Blais, of Mecatina, on complaint of the fishery guardian, Mr. Legouvé, for having set without license a small salmon net, after due warning from the overseer not to do so.

Amongst the new comers from Newfoundland, several tried to set salmon nets in Mecatina Bay, but did so only under the impression that they had a right to do so, as is the practice in Newfoundland. They took them up immediately. Mr. Legouvé ordered them to do so; as they had caught no salmon, and their reasons appearing good, I merely explained to them the law, and warned them not to transgress it.

The total amount of salmon caught this year on the North shore is 8,146 barrels.

Trout fishing is practiced in two different ways—with nets and with the fly—but none are taken for commercial purposes. The statistics show that ninety nine barrels of this fish were taken this year. The best trout river on the North shore is the Mingan. In three hours' time, Messrs. McFarlane and Thomson caught 150 large ones, and there is not a day during summer or fall when a good day's fishing cannot be had.

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Seal Fishing.

Although the seals which enter our Gulf during the first months of winter, to deposit their young on the floating ice, do not appear to have much diminished in number, as the steamers from Newfoundland employed in this hunt during last spring made as good catches as ever, still they have become so restless and wild that they do not come near the shore (even at those places they used to be fond of visiting, such as La Tabatiere and Mecatina) as formerly, thereby causing the inhabitants of Labrador, who in by-gone times solely depended on this fishery, and who had made no provision for the future, to become wretchedly poor. In these settlements, which were kept up exclusively in view of this pursuit, seal fishing is now of secondary importance, cod and salmon fishing having superseded it. Last fall, however, seal fishermen were agreeably surprised by their success. In the twelve stations where this sort of fishing is carried on, 1,449 seals were netted, valued at eight dollars each. In 1872 only 690 were captured. Five hundred and fifty were this year caught at La Tabatiere alone. Spring seal fishing, however, was much inferior to last year's catch. The five stations of Bradore Bay and Anse des Dunes only caught 281 seals against 750 last year. These seals being smaller are not worth as much as those taken in the fall. The wind sometimes drives the floating ice on which the young seals rest towards shore, and good catches are made, but this good fortune has not befallen this coast for the last three years, so that the inhabitants rely no more on this for a livelihood. They acknowledge that in places where seals used to be abundant, the good catch of last fall is almost entirely due to the prevalence of strong north-easterly winds, which drove these animals into the nets across the small bays and coves.

Seal Hunting on the Ice.

Twenty schooners from Esquimaux Point, and five from Natashquan went out early this spring seal hunting on the ice, but their catch was much smaller than that of last year. The vessels from Esquimaux Point brought home only 2,500 seals, and those of Natashquan 750, while last year 4,242 seals were secured by Point aux Esquimaux people, and about the same number as this season by the inhabitants of Natashquan. We may, therefore, consider this result as a failure, for what does this small number of seals amount to when divided between 250 schooners and 250 men? There will hardly remain enough to pay for their outfits, without thinking of benefits for the crews. Seals were plentiful, but bad weather and the steamers which were enabled to break through the ice and reach the seals before them, prevented our people from doing better than they did. Similar unsuccess has already been experienced in former years, but our fishermen are not discouraged, being able to compensate by previous successful hunts for their loss of the present season. It is to be hoped, however, that the new law passed by the Newfoundland Legislature, compelling their vessels to start later for this hunt will, first of all, protect the young seals from useless massacre, and give equal advantages to sailing vessels. Nearly all these schooners make one trip for herring in the fall on the Newfoundland coast. It is their last expedition of the season, and was successful. Had it not been so, many a fisherman would hardly have found sufficient means to procure his winter's provisions and fit out for next spring fisheries. 1,200 seals were captured during summer along the coast by the inhabitants of the north shore. For two or three years past one or two vessels from Quebec left in the spring for seal hunting on the ice, but have not so far been successful. Nothing, however, proves that similar expeditions well conducted will not be lucrative. The greatest obstacles met with, until now, are the difficulties in reaching the seal ice-fields from Quebec at an inclement season of the year. The "St. Lawrence Salmon Fishing Company," however, intends fitting their steamer *Ariel* next spring for seal hunting, and I am not aware of anything to prevent her from making as profitable trips as Newfoundland steamers. In expectation of such a success, the Company are putting up buildings at Mingan for the melting of seal oil.

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STATEMENT of Seal Fishing in the Pocachoo Division during the fall of 1873.

Stations.	Names of Fishermen.	No. of Seals.	No. of Boats.	No. of Men.	Remarks.
St. Augustine	W. Kennedy	87	1	3	
Pocachoo	J. C. Gowery	75	1	3	
Kircapwee	J. McKennon	29	1	3	
La Salé	Jos. Gallichon	200	1	3	
Spar Point	S. Robertson	560	1	4	
Red Point	Mrs. Gallibois	60	1	2	
G'rd Mecatina	S. Gaumond	182	2	5	Skins sold at $1.50 each.
Mutton Bay	M. Canty, jun	162	1	3	Oil, 50 cts. per gallon.
do	G. Mansbridge	13	1	1	
Isle a la Baleine	M. Canty, sen	34	1	2	
Rigolet au Chat	D. Mouger	121	1	3	
Ile aux Gôelands	Mrs. Mouger	54	1	3	
Ile du Navire	A. Galibois	32	1	2	
		1,609	14	37	

STATEMENT of Sealing and Cod-fishing Schooners from Natashquan.

Names of Schooners.	Tonnage.	Owner.	No. of Men.	No. of Seals.
Notre Dame de la Garde	22	P. Vigneau	9	70
Triumph	24	W. Vigneau	9	70
Notre Dame des Isles de la Madeleine	24	D. Talbot	9	200
Esperance	20	S. Landry	9	100
Marie Louise	26	H. Vigneau	9	100
Ocean Bride	18	J. Giasson	9	520
Marie Julie	22	H. Bourque	9	20

STATEMENT shewing the Number of Strangers settled at Harrington Inlet since 1873.

	No. of Men.	No. of Boats.
T. McDenald	2	1
J. Disk	2	1
J. Sislick	2	1
John Sailor	2	1
J. Cox	2	1
W. Capin	2	1
B. Banson	4	2
Ed. Sticklin	2	1
Jos. Smith	2	1
F. Babbitt	4	2

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STATEMENT shewing the Number of Strangers settled at Bay des Moutons since 1873.

	No. of Men.	No. of Boats.
W. Harris	4	2
Jos. Bafatt	2	1
Robert Vanson	4	2
T. Babbitt	4	2
J. Brown	2	1
W. England	2	1
Jos. Ellis	2	2
J. Halkett	2	1

Mackerel and Halibut Fishery.

Although these fish are not alike, I have placed them under the same heading. Canadian fishermen scarcely engage in that pursuit, and besides they are hardly quoted on our markets. This is unquestionably due to their defective preparation, as our neighbors pay high prices for them, and employ a most magnificent fleet of over 70 vessels in that enterprise. For a few years past, however, Nova Scotia, New Brunswick and Prince Edward Island fit out several vessels for this fishery. Without mentioning Magdalen Islands, the localities of the Gulf where mackerel is generally found, are Chaleurs and Gaspé Bays, and from Cape Gaspé to Cape Chatte on the south, and Mecatina and the Seven Islands on the north shores. With the exception of a few fishermen in Gaspé Bay, those of the south shore seldom fish for mackerel, except when they require bait for cod. To carry on this fishery with any chance of success, requires the employment of schooners in order to be enabled to follow the fish in their numerous and sudden migrations from one place to another.

Mackerel makes its appearance on the south-east shore of the Gulf towards the middle of July, and it is to be found about Seven Islands and Mecatina, especially at the latter place in August, where it can be seined in large numbers, should one be there at the time. During the course of last summer, two schooners, the *General Doyle*, Capt. Cunningham, and the *Leon Potter*, Capt. Kenny, from Yarmouth, Nova Scotia, came to Seven Islands for mackerel. They had with them bag nets, which are forbidden by law. The local fishery overseer warned them of the consequences should they dare to transgress the fishery laws. Capt. Cunningham, however, defied him, and despite his warning actually took about twenty barrels of mackerel, and left the place for fear of being overhauled by *La Canadienne*.

There certainly are places where the use of bag and trap nets can be allowed without danger of destroying other fish than those for which these engines are set, but as Seven Islands Bay is supposed to be and really is, a place where young salmon resort to after leaving the rivers, the use of such nets would have a most pernicious effect on the re-stocking of the neighboring streams. According to the evidence of persons who have seen this net used, some small salmon were found in it every time it was brought up. I was unable to get hold of Capt. Cunningham, but I am under the impression that he will not return next season, the past one not having been profitable. The people of Seven Islands took about twenty barrels of mackerel.

Very few American vessels were seen in Chaleurs and Gaspé Bays this summer, mackerel not having remained there long. Most of them resorted to Magdalen Islands and several were so successful as to make two loads.

The quantity of mackerel taken this year on the south shore amounts to 643 barrels, of which 500 were taken in Gaspé, and on the north shore, too.

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Halibut is not specially fished for, but as it often frequents the same banks as cod fish, the fishermen occasionally catch some. Ninety-five barrels were taken in both divisions. The places where this fish is taken in large quantities are the coasts in the neighbourhood of Trinity River, around the Mingan Islands, and along Anticosti. Five schooners from Gloucester, U. S., took loads of from 50,000 to 60,000 lbs. of this fish, each, during the season. Three of them made two trips. I only met one of them, the *Job Johnson* (Captain Nathan), with a crew of twelve men. They had already made a trip which yielded $100, clear, to each man. They keep their fish fresh in snow or ice for the Boston market. The Americans have been in the habit of catching halibut in large quantities on our coasts since they began carrying on this fishery, and it is difficult to say to what extent one can thus fish without causing injury. The fish are still found in as large quantities as ever in our waters, and it is only by long experience, and particular observation, that one will be able to solve this question.

Inspection of Fish and Fish Oils.

This measure, so long demanded by all fish consumers, and so necessary to restore the reputation of our fish merchants, will, undoubtedly, have the effect of giving confidence to buyers, and raise the price of this article in the market.

If Quebec has lost the fish market, if buyers have gone to the States and paid a higher price there for fish,—if we have thus lost a large source of revenue, it was mainly due to the fact that no reliance whatever could be placed on the brands used here. Up to the present date, dishonest fishermen were enabled to use all sorts of means to delude the buyer. Some of them even made it their business to buy damaged cargoes of fish, knowing them to be so, at very low prices, and after subjecting the fish to different preparations, would sell it on another market as No. 1, when, in reality, it was rotten. Such frauds have done more harm to the Quebec fish trade than the few damaged barrels of fish, prepared by fishermen, which found their way on our markets. Our fishermen who are in the habit of preparing their fish in a careless way, will, no doubt, grumble at first, when they see it quoted as Nos. 3 and 4, but when they notice the high price realized by No. 1 fish, they will try to have none but this, and with a little care the thing is very easy. And why should it be otherwise? Are we not as able as our neighbors to prepare it? Is it not the same fish they come over at great expense to catch in our waters, and which they prepare in such a manner as to become a delicious food, very different, indeed to that sold on our markets?

Under the protection of this law, purchasers will know what they are buying, and we may still hope to see our own Quebec market redeem its name. Customers will return, and who knows whether, in consideration of the profits realized, our merchants will not be induced to fit out vessels, as is done in the States, and thus partake in the wealth of our rich fisheries. In order to fulfil the design of the law, inspectors will require to be well up in their work, and employ good and experienced men as salters, coopers, etc. Each barrel should be examined, for if one be examined only from among 10 or 20, fraud will be easy, and the law will remain a dead letter. I place great hopes on the future effects of this law, should the inspectors do their duty conscientiously.

Magnetic Iron Mines.

The working of iron mines has, strictly speaking, nothing to do with fisheries, but the importance they have imparted to the north shore, leads me to say a few words about them.

It would seem that the time has at last come when those who, for eight years past, have vainly endeavored to find a market for this magnetic ore, which is found in such abundance on the north coast, will see their efforts crowned with success. This species of sand has been known for several years, but to Mr. Lamothe, of Montreal, who accompanied the Southern Raiders in their flight from relentless foes, is due the honor of having formed a society for their working and development. He originated a company, and forges were built at Moisie. These works have been in operation since. The fever of

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discoveries soon became general, and a short time was sufficient to show that magnetic sand was to be found at almost every part of the north shore. The richest deposits are, however, at Natashquan, Kegashka, St. John River, Moisie, and St. Marguerite. Other deposits are also found elsewhere, but not of such considerable importance. Several experiments have been made to purify this sand in a rapid and economical way, and make steel with a first melting, which is the great point. Both these problems have been solved. The secret of purifying we owe to Professor Larue, of the Laval University, and the other we owe to Mr. Labrèche Viger (now deceased), of Montreal.

Two young, enterprising and intelligent gentlemen from Quebec—Messrs. Duval and Michaud—placing full hopes in this new industry, have decided some English manufacturers at Swansea to buy this black sand purified. They began in June to put up the necessary houses at a place called Black Point, between St. John's River and Mingan, and a few days afterwards everything was in full operation. Twenty-three men have been constantly employed in purifying the sand, which contains, in the rough state, 30 per cent., and when purified, 99 per cent. of magnetic iron. They could purify 10 tons of it per day, this summer, but I was told that next year 50 tons could be purified per day. In October, Messrs. Duval and Michaud had 350 tons of purified sand on hand that they were able to deliver to the English manufacturers on board the barque *Record*, (Capt. Kean).

The experiments already tried for the fabrication of steel, and the quality produced, give sufficient security to rely on the success of these young men. Quebec has established a factory for the fabrication of steel from this sand, and Messrs. Duval and Michaud have already sent up several tons of their ore. At Natashquan also, there is being put up an establishment to purify black sand.

Lighthouses.

The navigation of the north shore has been until now very difficult: first of all, because, in the narrow entrance which opens from the ocean into the Gulf there often floats until August, immense ice-bergs which come up as far as Natashquan, and then because of the thick fogs during the months of June and July, which come on suddenly and last sometimes three or four days, leaving one without signal or lighthouse to enable him to avoid the numerous dangers of the coast, and of the islands strewn here and there, from Natashquan to Belle Isle. Some of these islands extend out from the coast a distance of eight miles, and in many cases the water immediately around them being very deep, the use of the lead is no guide to their proximity.

The dangers along this coast are certainly numerous, but a small expense would make navigation easier and more secure. In the present state of things, four or five lighthouses in well chosen localities, would make navigation by this route preferable to that by the south, the course of vessels being more direct. By this route the distance between Quebec and Liverpool is lessened by 400 miles, and this would be enough to make vessels adopt it from June to December. Besides, vessels in the fall would escape those tremendous gales which blow from the north-west with such fury, breaking up vessels or causing them to founder on the route usually followed. Moreover, the north shore offers a number of good harbors, into which vessels of all sizes might run during a gale or when in distress. The most dangerous spots on this coast for vessels running up from the eastward, after leaving Forteau Light, are Flat Island, three miles from Mecatina; St. Mary's Island near Cape Whittle, from which it is distant about eight miles, and Carleton Point, on the north shore of Anticosti. For vessels running down, the most dangerous spots are the west point of Anticosti, where there already exist a light and signal gun; the Mingan Islands, and Natashquan Point, to the northward.

The size of this report does not allow me to examine minutely all the advantages offered by the north shore route for vessels travelling between the north of Europe and Canada, or to amplify on the necessity for facilitating this navigation, and give the reasons for crossing the above-named spots; but I can here assert that their selection would meet with the approbation of all mariners who know this coast. Moreover, I am fully per-

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suaded the Department understands the importance of these things, and the advantages which would result to navigation and commerce in general should the north shore be provided with a few lighthouses : and I believe that, with the spirit of enterprise which characterises the Department of Marine and Fisheries, this long-desired amelioration will become a fact.

Last year I spoke of the destruction of the wild fowl in the Gulf of St. Lawrence, through the eggs being robbed. This year no schooners were seen engaged in this traffic, but the inhabitants say that there is a great falling off in the number of birds. This is perhaps the reason why these vessels did not come this year, their last expeditions not having paid.

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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,

LABRADOR

No.	NAME OF PLACE.	Vessels.				Fishing Boats.		Flat Boats.		No. of Fishermen.	No. of Shoremen.	Salmon Nets.			Cod Seines.		
		No.	Tons.	Value.	No. of Sailors.	No.	Value.	No.	Value.			No.	Yards.	Value.	No.	Yards.	Value.
				$			$		$					$			$
1	Godbout	...	...	...	1	3	...	7	...	6	...	..	...	...	..	..	..
2	Pointe des Monte	3	...	...	3	13	...	3	...	17	1	..	...	...	..	..	..
3	Trinity Bay	...	...	...	1	11	...	15	...	25	...	..	1552	...	..	..	..
4	Islet à Caribou	...	...	...	...	4	...	6	...	4	...	..	500	...	..	..	..
5	Pointe aux Anglais	1	...	...	...	9	...	4	...	18	...	..	264	...	..	..	..
6	Cailles Rouges	1	...	...	3	6	...	6	...	13	...	..	...	...	..	..	..
7	River Ste. Marguerite	...	...	...	...	...	...	...	...	...	...	..	...	...	..	..	..
8	Sept Isles	...	...	...	...	...	...	...	...	...	...	..	...	..	..	..	..
9	Jambons	...	...	...	...	...	...	...	...	...	...	..	...	...	..	..	..
10	Moisie River	...	...	...	...	2	12	12	120	40	2	28	5540	...	..	..	..
11	do (outside)	1	52	1600	4	13	600	17	128	35	14	5	2840	...	..	..	..
12	Pigou	...	...	...	...	...	...	...	...	...	...	..	...	...	..	..	..
13	River au Bouleau	...	...	...	...	...	...	...	...	...	...	..	...	...	..	..	..
14	Shallop River	...	...	...	...	6	...	1	...	12	2	..	...	...	..	..	..
15	Gibraltar Cove	1	...	...	3	25	...	6	...	50	13	..	...	...	1	..	1
16	Sheldrake River	2	...	...	11	21	...	6	...	42	27	2	300	...	3	..	..
17	do Head	...	...	...	...	19	...	7	...	38	14	2	117	...	2	..	..
18	Primrose Cove	...	...	...	...	2	...	1	...	4	...	..	...	...	..	..	..
19	Thunder River	...	...	...	...	31	...	13	...	62	40	1	240	...	1	..	..
20	do Head	...	...	...	...	3	...	1	...	6	...	..	...	...	..	..	..
21	Indian Harbor	...	...	...	...	10	...	8	...	20	10	..	...	...	..	..	..
22	Ridge Point	...	...	...	...	15	...	5	...	30	19	..	...	...	..	..	..
23	Jupitagan	...	...	...	...	3	...	2	...	6	...	1	350	...	..	..	..
24	Rambler's Cove	...	...	...	...	57	...	17	...	114	100	1	45	...	..	..	..
25	Magpie Bay	...	...	...	...	13	...	9	...	26	8	..	90	...	..	..	..
26	do River	...	...	...	...	1	...	2	...	2	...	1	530	...	..	..	..
27	Esquimaux Point	22	...	...	...	60	...	83	...	212	...	..	...	...	..	..	..
28	Sand Point	...	...	...	...	34	...	20	...	68	3	1	410	...	..	..	..
29	Mingan River	...	...	...	...	...	...	...	...	...	...	..	290	...	..	..	..
30	Romaine River	...	...	...	...	...	...	...	...	...	...	..	...	...	..	..	..
31	Long Point	...	...	...	...	2	...	2	...	8	2	..	...	20	..	..	..
32	St. John's River	7	122	...	25	62	...	27	...	125	45	6	3511	...	1	..	..
33	Nabissippi	...	...	...	...	3	120	3	3	8	3	3	900	108	..	..	..
34	Agwanus	1	20	400	3	1	...	1	10	2	...	3	600	120	..	..	..
35	Natashquan	7	156	6100	61	35	1260	43	430	72	61	1	1400	280	..	..	..
36	Kegashca	...	...	...	...	5	200	5	50	28	4	4	720	1214	..	..	..
37	Mistassini Point	...	...	...	...	...	...	1	10	2	2	1	120	4	..	..	..
38	Pointe a la Croix	...	...	...	...	2	80	2	20	1	1	1	120	14	..	..	..
39	Musquaro	...	...	...	1	1	40	1	10	4	...	2	100	12	..	..	..
40	Washeecootai	...	...	...	...	1	40	1	10	1	...	4	600	1200	..	..	..
41	La Romaine	...	...	...	...	1	40	1	10	2	...	4	700	1300	..	..	..
42	Washtouca	...	...	...	...	9	360	4	40	18	9	..	380	...	..	..	..
43	Nabissippi Point	...	...	...	...	3	120	3	30	6	3	..	...	...	..	..	..
44	Little Watsheeshoo	...	...	...	...	...	...	1	7	2	...	3	120	15	..	..	..
45	Piashter Bay	...	...	...	...	...	...	1	6	2	...	2	40	10	..	..	..
46	Corneille Harbor	..	...	...	..	1	20	1	8	2	...	1	120	15	..	..	..
47	do River	...	...	...	...	...	...	1	5	2	...	2	200	23	..	..	..
48	Ateepetal Bay	...	...	...	...	...	...	1	2	1	...	2	160	17	..	..	..
49	Betchowan	2	88	1700	11	5	16400	3	2400	13	11	..	...	...	1	100	50
50	Chicatica Island	...	..	...	...	1	...	1	...	2	1	1	70	...	..	..	..
51	Mustinque Island	...	...	...	...	1	...	1	...	2	1	1	72	...	..	..	..
52	Canso Harbor	...	...	...	...	1	...	1	...	3	2	1	300	...	..	..	..
53	Anse du Portage	...	...	...	...	...	...	1	...	1	...	1	140	...	..	..	..

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kinds of Nets used, kinds of Fish, and Fish Oils, &c., &c.

DIVISION.

NETS AND SEINES.

Herring Seines.			Herring Nets.			Mackerel Seines.			Mackerel Nets.			Capelin Seines.			Launce Seines.			Seal Nets.			Brush Fisheries.	
No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Value.
		$			$			$			$			$			$			$		$
									1													
			1																			
						1			1			1										
			6	150	50	1	168	160	9	295	105	1	50	50	1	50	50					
												4	110	125	3	100	50					
															1							
															3							
												1			2							
			1						1			2			3							
			5			2						1			4							
															1							
			1									1			4							
			1									1			2							
			3									2			5							
			12												5							
			2																			
8			1									5						2	320			
5															9							
																			1400			
			1									1			12							
			1	24	14																	
1	200	120	29	1028	656							5	600	422	1	12	40					
			7	168	90							1	120	103								
			2	48	28																	
			1	24	14																	
			6	144	84				1			1	120	103								
			2	48	28																	
																		3	80	80		
																		3	20	5		
																		2	60	8		
																		3	120	15		
			6	400	8200														160			
			1									1								1700		
			1																			

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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men

LABRADOR

No.	NAME OF STATION.	Salmon, barrels, (cured).	Salmon, (fresh in ice), lbs.	Salmon, (in cans), lbs.	Salmon, (smoked), boxes.	Summer Fishing. Cod, quintals.	Fall Fishing. Cod, quintals.	Haddock, quintals.	Ling, quintals.	Halibut, barrels.	Herring, barrels.
1	Godbout		1800			105					
2	Pointe des Monte					406					4
3	Trinity Bay	111				540				3	
4	Islet à Caribou	35				55					
5	Pointe aux Anglais	2				1577				22	
6	Cailles Rouges					900					
7	River St. Marguerite	17				400	100				
8	Sept Isles	4				480	200				
9	Jambons	5				70				1	
10	Moisie River		204000				155				
11	Moisie River (outside)	146				1330	420			6	
12	Pigou					400	100				
13	River au Bouleau					200	90				
14	Shallop River					300	70				
15	Gibraltar Cove					1400	80				
16	Sheldrake River	4				1180	20				
17	Sheldrake Head	1				1250	70				
18	Primrose Cove					90	15				
19	Thunder River	1				2729	192				6
20	Thunder Head	1				250					
21	Indian Harbor					877	54			1	16
22	Ridge Point					1298	85				41
23	Jupitagan	7				70	20				
24	Rambler's Cove	2				5944	195			1	56
25	Magpie Bay					1008	62				59
26	Magpie River	96									8
27	Esquimaux Point					6246					4389
28	Sand Point	3									
29	Mingan River	35									
30	Romaine River	67									
31	Long Point					3054	243			7	1
32	St. John's River		59489			4913	140			1	3
33	Nabissippi	25				290					
34	Agwanus	58									
35	Natashquan		113727			2175	537				373
36	Kegashca	14				320	200				86
37	Mistassini Point	7									
38	Pointe à la Croix					60	25				12
39	Musquaro	4									
40	Washeecootai	12					50				12
41	La Romaine	30									
42	Washtouca					400	100				25
43	Nabissippi Point	12				130					5
44	Little Watsheeshoo	13									
45	Piashter Bay	7									
46	Corneille Harbor	10									
47	,, River	20									
48	Aetepetal Bay	2									
49	Betchowan					380					
50	Chicatica Island	3				100					
51	Mustinque Island	9				80					
52	Canso Harbor	4				35					
53	Anse du Portage	2									

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kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Continued.*

DIVISION.

Smoked Herring, boxes.	Mackerel, barrels.	Trout, barrels.	Sardines, barrels.	Eels, barrels.	Tunney, barrels.	Cod Tongues and Sounds, barrels.	No. of Seals.	No. of Seal skins.	No. of Whales.	No. of Porpoises.	Oils. Seal oil, gallons.	Whale oil, gallons.	Porpoise oil, gallons.	Cod oil, gallons.	Fish used as Manure. Herring, barrels.	Capelin, barrels.	Smelt, barrels.	Cod roes, barrels.
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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,

LABRADOR

No.	NAME OF PLACE.	Vessels.				Fishing Boats,		Flat Boats.		No. of Fishermen.	No. of Shoremen.	Salmon Nets.			Cod Seines.		
		No.	Tons.	Value.	No. of Sailors.	No.	Value.	No.	Value.			No.	Yards.	Value	No.	Yards.	Value.
				$			$		$					$			$
54	Pointe à Giroux					1		1		2			480				
55	Sandy Island							1		1			186				
56	Dog Island							1		1			260				
57	River Island							1		1			360				
58	Lac Salé							2		2			640				
59	St. Augustine Bay							1		1			300				
60	do River							2		2			400				
61	Karcivipi							1		1			240				
62	Fraser's Rapid							1		1			120				
63	Grosse Isle, S. Augustine							1		1			60				
64	Pocachoo Big Rigolet							1		1			260				
65	Little Rigolet							1		1			422				
66	Pocachoo Island					1		2		3			300				
67	Pointe Rouge							1		1			120				
68	Kikapoe River							1		1			120				
69	do Island							1		1			350				
70	Fonderie de Fecteau							1		1			124				
71	Salt Lake Tabatière					1		1		3			100				
72	Spar Point and Peche à Duquet					1		2		4			220				
73	Bay Rouge Tabatière					1		1		3			100				
74	Meccatina Island					1		2		3			240				
75	Big Meccatina					1		1		3			150				
76	Bay des Moutons					1		1		2			300				
77	Meccatina River					1		1		2			300				
78	Whale Head, Meccatina					2		3		5			470				
79	Little Meccatina					1		1		2							
80	Gull Island, Meccatina					1		1		1			60				
81	Providence Island					1		1		1			70				
82	Nitagamiou River					1		1		2			110				
83	Pointe à la Croix							1		1			120				
84	Harrington Harbor					10		1		20			178				
85	Nitagamiou					1		2		4			462				
86	Pointe à Mourier					1		1		3			160				
87	Cape Whittle					1		1		2			224				
88	Coacoachoo					15		1		2			120				
89	Mouton Bay									30							
90	Napittipi River					1		1		2	2		140				
91	Bull Cove							1		1	1		200				
92	Bay of Rocks					2		2		4	4		200				
93	Lydia's Cove					1		1		2	2		200				
94	Pêche à Lizotte							1		2	2		200				
95	Dog Island					1		2		2			200				
96	Old Fort Island					5		4		7	6		200				
97	Burnt Island					2		2		4	4		200				
98	Bonne Esperance	1				9		10		18	16		200		2		
99	Pigou Island					2		2		4	4		200		1		
100	St. Paul's River							3		4	2		400				
101	Stick Point					3		2		6	4		400				
102	Salmon Bay	1				13		10		28	16		400		1		
103	Little Fishery					2		2		4	3		200				
104	Five League					2		2		4	4		200		1		
105	Middle Bay					1		1		2	2		200				
106	Belles Amours					2		1		4	4						

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kinds of Nets used, kinds of Fish, and Fish Oils, &c., &c.—*Continued.*

DIVISION.— *Continued.*

NETS AND SEINES.

Herring Seines.			Herring Nets.			Mackerel Seines.			Mackerel Nets.			Capelin Seines.			Launce Seines.			Seal Nets.		Brush Fisheries.	
No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Value.
		$			$			$			$			$			$			$		$
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			1									1							420			
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1																			670			
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																			200			
												1			1				200			
												1			1				200			

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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,

LABRADOR

No.	NAME OF STATION.	Salmon, barrels, (cured).	Salmon, (fresh in ice), lbs.	Salmon, (in cans), lbs.	Salmon, (smoked), boxes.	Summer Fishing. Cod, quintals.	Fall Fishing. Cod, quintals.	Haddock, quintals.	Ling, quintals.	Halibut, barrels.	Herring, barrels.
54	Pointe à Giroux	14									
55	Sandy Island	18									
56	Dog Island	15									
57	River Island	12									
58	Lac Salé	45									
59	St. Augustine Bay	9									
60	St. Augustine River	7									
61	Karcivipi	5									
62	Fraser's Rapid	1									
63	Grosse Isle, St. Augustine	1									
64	Pocachoo Big Rigolet	3			75						
65	Little Rigolet	3									
66	Pocachoo Island	16				75	18				
67	Pointe Rouge	2									
68	Kikapoe River	4									
69	Kikapoe Island	3				6					
70	Fonderic de Fecteau	7				15					
71	Salt Lake River, Tabatière	5				35					
72	Spar Point	3				25					
73	Bay Rouge, Tabatière	4				117					
74	Meccatina Island	5				58					
75	Big Meccatina	4				135				200	
76	Bay des Moutons	7				55					
77	Meccatina River	16									
78	Whale Head, Meccatina	25				119					
79	Little Meccatina	1				80					
80	Gulf Island, Meccatina	1				40					
81	Providence Island	1				60					
82	Nitagamiou River	3									
83	Pointe à la Croix	3									
84	Harrington Harbor	4				526					
85	Nitagamiou	26				15					
86	Pointe à Mourier	5				26					
87	Cape Whittle	7									
88	Coacoachoo	3									
89	Mouton Bay					1250					
90	Napittipi River	5				20					
91	Bull Cove	10				30					
92	Bay of Rocks	15				200					100
93	Lydia's Cove	10				10					
94	Pêche à Lizotte	10									
95	Dog Island	5				50					
96	Old Fort Island					240					
97	Burnt Island	4				200					
98	Bonne Esperance	6				1400					100
99	Pigou Island	6				500					
100	St. Paul's River	50				20					
101	Stick Point	10				400					
102	Salmon Bay	20				880					
103	Little Fishery	10				100					
104	Five League	10				200					
105	Middle Bay	4				50					
106	Belles Amours					50					50

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kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Continued.*

DIVISION. —*Continued.*

Smoked Herring, boxes.	Mackerel, barrels.	Trout, barrels.	Sardines, barrels.	Eels, barrels.	Tunney, barrels.	Cod Tongues and Sounds, barrels.	No. of Seals.	No. of Seal Skins.	No. of Whales.	No. of Porpoises.	Oils. Seal Oil, gallons.	Whale Oil, gallons.	Porpoise Oil, gallons.	Cod Oil, gallons.	Fish used as Manure. Herring, barrels.	Capelin, barrels.	Smelt, barrels.	Cod Roes, barrels.
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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men

LABRADOR

No.	NAME OF PLACE.	Vessels.				Fishing Boats.		Flat Boats.		No. of Fishermen.	No. of Shoremen.	Salmon Nets.			Cod Seines.		
		No.	Tons.	Value.	No. of Sailors.	No.	Value.	No.	Value.			No.	Yards.	Value.	No.	Yards.	Value.
				$			$		$					$			$
107	Bras D'Or	...	....	.....	....	2	...	2	....	4	4	..	....	....	..	..	..
108	Anse des Dunes	...	....	.....	....	2	...	2	....	6	4	..	200	...	..	..	..
109	Long Point	...	....	.....	...	....	.....	...	....	....	....	..	....	....	..	..	..
	Total	50	438	9800	127	588	19292	451	3299	1380	481	85	35832	4352	15	100	51

No.	NAME OF STATION.	Salmon, barrels, (cured).	Salmon, (fresh in ice), lbs.	Salmon, (in cans), lbs.	Salmon, (smoked), boxes.	Summer Fishing. Cod, quintals.	Fall Fishing. Cod, quintals.	Haddock, quintals.	Ling, quintals.	Halibut, barrels.	Herring, barrels.
107	Bras d'Or	....	.....	.....	....	120	.....	....	...	....	.....
108	Anse des Dunes	2	.....	.....	....	160	.....	....	..	....	.....
109	Long Point	....	.....	.....	....	150	.....	....	....	....	.....
	Total	1214	379016	.....	75	559	3241	....	....	241	8146

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kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Concluded.*

DIVISION.—*Concluded.*

NETS AND SEINES.

Herring Seines.			Herring Nets.			Mackerel Seines.			Mackerel Nets.			Capelin Seines.			Launce Seines.			Seal Nets.			Brush Fisheries.	
No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Value.
		$			$			$			$			$			$		300	$		$
																			400			
21	200	120	148	2030	9164	6	168	160	13	295	105	28	1000	804	64	162	140	16	9406	1808		

Smoked Herring, boxes.	Mackerel, barrels.	Trout, barrels.	Sardines, barrels.	Eels, barrels.	Tunny, barrels.	Cod Tongues and Sounds, barrels.	No. of Seals.	No. of Seal Skins.	No. of Whales.	No. of Porpoises.	Oils.				Fish used as Manure.			
											Seal Oil, gallons.	Whale Oil, gallons.	Porpoise Oil, gallons.	Cod Oil, gallons.	Herring, barrels.	Capelin, barrels.	Smelt, barrels.	Cod Roes, barrels.
											200			70				
														100				
											900			150				
	3	51			..	4	7225	1894			2057	400		23283				

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RECAPITULATION.

VALUE OF THE DIFFERENT FISHERIES OF THE LABRADOR DIVISION.

		$ cts.	$ cts.
Summer Cod Fishery	89,559 quintals, at	4 00	358,236 00
Autumn do	3,241 do	5 00	16,205 00
Mackerel Fishery	3 barrels	10 00	30 00
Herring do	8,146 do	3 00	24,438 00
Halibut do	241 do	5 00	1,205 00
Salmon, pickled	1,214 do	16 00	19,425 00
do fresh	379,016 lbs.	0 5	18,950 00
do smoked	75 boxes	30 00	2,250 00
Trout Fishery	51 barrels	10 00	510 00
Ling do	do	5 00	
Number of Seals	7,225	6 00	43,350 00
Seal Oil	26 976 gallons	0 80	21,580 00
Whale Oil	400 do	0 80	320 00
Cod Oil	23,283 do	0 50	11,641 00
Fish (for manure	barrels	0 25	
Total value of products of Fisheries, 1873			518,140 00
do do do 1872			395,975 00
Increase			122,165 00

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MAGDALEN ISLANDS.

This group, situated almost in the middle of the gulf, comprises eight islands (Deadman, Amherst, Grindstone, Entry, Allright, Grosse Isle and Bryon, the Bird Rocks hardly coming under the same denomination,) has been so often spoken of that I feel it a difficult task to do so again without repeating myself, especially as the islands offer little interest otherwise than a rendezvous for fishermen from all parts; the waters surrounding them being full of fish all the season round. Notwithstanding the alarming prospects left by the poor fishing and farming of 1872, the inhabitants were able to pull through the difficulties of the winter season by a most fortuitous circumstance—a schooner, the *Marie Adèle*, from Quebec, laden with flour, went ashore at Amherst last fall, and her cargo was sold at low prices. Then again, early in the spring, when the wants of the Magdalen Islanders are still more pressing, a schooner from Prince Edward Island arrived laden with potatoes, thereby procuring them abundant food at a comparatively low price.

The gulf in these parts were blocked with ice until late in May, so that the greater part of the herring fishing schooners were unable to reach the Islands at all. The inhabitants informed me that they had not seen the ice remain so long for a number of years. When I arrived at the Islands for the first time (25th May), I found the fields in a far more advanced state than those below Quebec and about Gaspé; the weather had kept fine for some time previously, and the land was cleared of snow. The inhabitants not having been able to procure, as usual, salt from the different vessels in payment of their labour, had turned their attention to farming; and I hope that this forced lesson will serve some purpose, and bring them to think more seriously of the numerous advantages they could reap from tilling their lands, the soil of which is of excellent quality. Their turning their hands to agriculture must also be attributed in a great measure to the high price demanded for salt, for as late even as the 14th of June, eight shillings and sixpence a bag and ten shillings a barrel was the price, there being only a small quantity of it on the Islands.

Had it not been for the frightful gale which visited these parts in August, we might have looked forward to quite a good general crop, but I am sorry to say a great deal of damage was done to it by this gale, except perhaps on Grindstone Island, where they hope to save the greater part of it.

With regard to the emigration of the inhabitants which last year was quite a mania, I heard that not so many had left their homes for new ones this year. Some ten or twelve families, however, have gone either to Esquimaux Point or the Seven Islands, where their friends are established, so as to free themselves as far as in their power from their great dreads—municipal taxation, by-laws and seigniorial rents! It is difficult for me to say how far this emigration will effect the Islands, but when we consider the long months of winter during which these people are shut out from all communication with other parts, the difficulty of procuring the necessaries of life at reasonable terms, the scarcity of fuel, &c., we cannot blame them for looking for a better home. I do not wish, however, to insinuate that it is impossible for an industrious working man to live here. Far from it. But from the tastes and habits of the Magdalen Islanders, I cannot see how they can extricate themselves from their present position without taking the course they have done; and so long as they confine their migration to the Dominion, no serious harm can be apprehended. These islands were visited on the 23rd August by one of the most terrific hurricanes which have ever yet swept the gulf, and lasted till the 26th. At the beginning of the gale, there were 83 vessels anchored in Pleasant Bay; of this number 48 broke away from their moorings and were stranded (10 on the shores of Pleasant Bay and 38 in Amherst Harbour), and 26 were able to make the harbour and anchor in safety, while nine rode out the tempest with their anchors and cables. From what I heard it must have been a fearful sight to witness these little vessels struggling against the gale, and finally conquered by the contending elements, strike against the rocks during the cruel hours of darkness. It seems almost incredible that three persons only were drowned when we look at the deep cliffs on which some schooners grounded. The unfortunate men belonged to the *E. J. Smith* of Wellfleet, U.S., which vessel came ashore during the night under the Cape

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at the entrance to Amherst Harbour, and went to pieces two hours afterwards. Some other vessels, such as the *Diploma*, *Helen C. Woodward*, and *Emma L. Rich*, after tossing about and loosing their anchors, ran ashore on a solid ledge at the foot of the Demoiselles Hill, where the sea was breaking 100 feet high! The crews of these vessels would most probably have been lost had not two of the islanders, Aimé Nadeau and James Cassidy, seen them coming ashore. These hardy fellows let themselves down the side of the Cape by a rope, and with the help of Cassidy's Newfoundland dog which plunged into the surf and seized the men, bringing them all on shore. Had it not been for this courageous behaviour on their part, 31 more lives would in all probability have been lost.

Among the stranded vessels was a Jersey bark, the *Swift*, Captain Le Selleur, who had on board 130 fishermen from the Islands, all returning from Blanc Sablons. Most luckily for her passengers she was able to be guided to a sand bank at the entrance to the harbour when she parted her moorings; had she gone a little to leeward there would have been a fearful loss of life to chronicle. A steamer, the *Commerce*, from Boston, with the agent of the Insurance Offices, Capt. Procter, and all the appliances on board necessary to haul off vessels, was sent by the interested parties to give what assistance she could. Several schooners were got afloat, but I doubt if all will be as lucky, The United States Government also sent a vessel, the revenue-cutter *Woodbury*, Commander Barr, to render what assistance he could in the way of transporting distressed fishermen back to their homes. Most of those shipwrecked men had, however, left in the schooners before she arrived. The gale will long be remembered by all seafaring men not only for its duration but for the destruction it caused to life and property all throughout our gulf—many are the families left fatherless and with scanty means of subsistence. Let us hope our shores will never again witness such a storm, or at least that a great number of years will elapse before its occurring again.

Several naturalists from the States visited the Islands for the purpose of collecting birds and eggs. One of them, Mr. C. J. Maynard, of Ipswich, Mass., author of the "Birds of Florida" intends editing a work on the birds of the gulf, and will visit the north shore next year to gather information.

Seal Hunting.

It gives me great pleasure to state that the efforts of these hardy islanders met with some success in this pursuit. In 1872 they were almost discouraged, having only brought home 1,713 pelts, after incurring the many dangers of a gulf packed with ice. But this spring a total of 6,850 seals were killed and brought home; 2,500 were caught in the ice around the islands, and 4,350 were brought in by three schooners from Amherst and thirteen from Havre aux Maisons.

All those hunters from whom I was able to gather information told me that they had seen large herds of seals, but that the ice was so jammed that it was impossible to get as near them as they would have liked. Several persons, amongst whom are Messrs. de Quetteville, Savage and Leslie made a trial at setting "sedentary" seal nets around Amherst Island, and did well, having caught in their first attempt 221 seals. This innovation and its results have induced many persons to make nets, and try their luck next spring. This method of catching seals will no doubt prove most lucrative if the ice does not remain too long about the Islands, when herring make its first appearance, as it is a known fact that these animals follow that fish into all the bays it chooses for spawning.

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I here give a statement of the names, tonnage, etc., of the vessels which went sealing this spring:—

Date of Departure	Vessel's Name.	Captain.	Tons.	Number of Men.	Number of Boats.	Number of Seals.
April.....	Esperance, Amherst	Chiasson	51	10	5	These schooners took 1,100 seals between them. Could not get exact proportion.
do	Flora.....	Boudreau.....	34	10	4	
do	Cutter.....	Cormier	27	9	3	
do	Delaney, Havre aux Maisons	Vigneau.....	43	10	4	The Havre aux Maisons' vessels took an average of 250 seals each. Could not get exact proportion.
do	Archangel	Jonphe.....	40	10	4	
do	Greenock	Terriau.	39	10	3	
do	President	Turbide	30	10	3	
do	Dolphin	D. Richard.....	52	10	5	
do	Mary Ann.....	Arseneau.....	36	10	4	
do	Jane Emilia	Turbide	48	10	5	
do	Jenny Lind.....	Chivary	39	10	4	
do	Arctic	N. Arseneau.....	52	10	5	
do	Temperance.....	E. Arseneau.....	36	10	4	
do	Annie	Terriau	41	10	4	
do	Stella Maris	G. Arseneau.....	47	12	5	
do	Lion.....	O. Richard	41	10	4	

Herring Fishery.

Herring made its appearance along the shores of this coast several days sooner than last year, and on the 27th of April Pleasant Bay was full of them. As I have said before, the greater part of the herring fleet were unable to reach the Islands, and had to put back to their respective ports on account of the large quantity of ice they met with in the Straits or Gulf. Four schooners, however, were able to make their way to Amherst Harbour, and to complete their loads in a few days. The following gives their names, tonnage, etc :—

Date of Arrival.	Vessel's Name.	Port of Registry.	Master.	Tons.	Number of Men.	Number of Boats.	Number of Nets.	Number of Seines.	Number of Barels.
13th May.	A. B. Higgins...	Lamoine	A. B. Higgins....	42	8	2	.....	1	800
14th do .	Susan	Canso	J. Walker	19	4	2	.....	2	300
23rd do .	Hero.....	Prince Edward Island.....	McKay..... ...	29	3	1	.. ...	.... .	500
do do .	Anemone.....	Anticosti	Battersy.....	10	4	1	.....	.....	50
			Total.....	100	19	6	.....	2	1,650

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On the 27th of April, some fishermen from the Islands had a cast of the seine which brought in about 300 barrels of herring. Only a few barrels were, however, saved, as with their usual negligence they had not thought of procuring last year the means of pickling their fish this spring. Salt was too dear and the price of fish too low to allow them to take advantage of their good luck.

Owing to the above-mentioned causes the herring catch of 1873 is much inferior to that of 1872. In that year 14,505 barrels of it were caught by foreign vessels, while 2,956 barrels were prepared by the inhabitants.

From what I heard herring was not much more abundant this season than last.

Mackerel Fishery.

The spring fishery began about the first week in June. When we arrived on the 14th June, the following steamers were completing their cargoes :—

Vessel's Name.	Port of Registry.	Master.	Tons.	Number of Men.	Number of Boats.	Number of Nets.	Barrels of Fish.
P. Martin	Halifax	J. Murphy	20	5	2	26	100
Mary Ellen	Port Melbourne	W. Reeves	25	6	3	60	260
Annie Bell	Halifax	H. Leslie	40	13	6	120	400
Evina Elizabeth	do	H. Hews	28	12	6	120	270
Two Brothers	do	E. Healey	25	5	2	40	160
Eliza	do	J. Hews	40	7	3	60	250
Lilian	do	E. Proctor	41	10	4	100	500
Sea Slipper	Prince Edward Island		15	4	1	20	100
		Total	233	62	27	546	1,900

These vessels, as you will perceive, caught an aggregate number of 1,900 barrels of mackerel, being 430 more than last season, although two vessels less in number. I was informed by the oldest fishermen that they never remembered having seen such an abundance of mackerel, and the captain of the *P. Martin* (J. Murphy) told me that he had been obliged to leave his nets out three days without going to them, owing to the large quantity of fish already on board and not salted down, and that he was not the only one who had that experience. As for the inhabitants of the place, some 40 only devoted themselves to this pursuit, but owing to the high price of salt they preferred selling their fish fresh to the merchants at six shillings a hundred, and very few barrels, therefore, were salted for private use.

The summer fishery was also good, attracting many vessels from our Maritime Provinces and the States. There were some 160 sails about the Islands between June and September, and, from what I could learn, they made fine loads. Several boats belonging to the Islands were also employed in fishing for mackerel, and made good average fares, bringing back in all 5,500 barrels, being 1,418 barrels more than last year.

Cod Fishery.

Codfish made its appearance about here towards the end of May, and continued to be abundant all through the season, the boats in the beginning averaging from three to four draughts a day.

All the schooners, seventeen in number, belonging to the Islands sailed between the 12th and 15th June for the Labrador coast for the purpose of cod-fishing, and brought back

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full cargoes. Unluckily, however, one of them, the *Marie Anne*, Captain Abel Arseneault, was lost on a rock near St. Mary's Islands, North Shore, the crew having barely time to escape in their boat before she foundered. The different boats belonging to the Islands were also employed cod-fishing. The total quantity of codfish caught about the Islands is 17,048 quintals, showing a diminution of the quantity caught last year of 20,032; but this may be accounted for by the fact that after the gale of the 24th of August a great number of fishermen left fishing and went to work helping to get the wrecked schooners afloat, at two dollars a day, receiving thus more profit than they would hope to realize by fishing.

Amherst Harbor.

The deepening of the entrance to Amherst Harbor may now be considered completed, the channel being 13 feet deep at high water, and from 75 to 80 feet wide. Mr Rosa excavated and brought up from the bottom over 490 tons of very hard stone this season, not, however, without meeting with much difficulty, on account of the prevalence of bad weather and almost continual strong winds, which troubled the waters and prevented the diver going down. As the obstruction of this harbor (which is really the only good harbor among all the Islands) would be the death-blow to the fisheries and local trade, and as the sand banks which surround it threaten to do so, it is proposed to sow such seeds as would thrive in dry lands; some plants, in fact, similar to those which now grow on the sand banks about here, thereby offering a natural barrier to their encroachments.

On complaint by the Harbor Master I fined the captain of the American schooner *Ch. Thompson*, from Gloucester, for having thrown part of his ballast into the harbor.

The Dominion Dredge.

was at work for over a fortnight at Havre aux Maisons, where she did good service in deepening the entrance to that harbor which had somewhat filled with sand.

Light-houses.

These Islands have now three light-houses:
One on the south-west point of Amherst Island.
One on the south point of Entry Island.
One on the north-west side of Grindstone Island, where there is also a fog-whistle.

Postal Communication.

Postal communication is carried on between these Islands, Pictou and Gaspé, by a packet schooner, specially fitted for this service and subsidized by the Post Office Department. This vessel, a fast sailer, calls for the mails at Pictou during the first week and at Gaspé during the third week of the month, returning immediately to Amherst. She is also fitted up as a passenger-vessel, and offers very good accommodation to those persons who wish to visit the Islands.

I was informed by several persons that it was the intention of a Nova Scotian Company to build a hotel here so as to attract the travelling public; and I have no doubt the scheme will take, as the Magdalen Islands offer many picturesque sights and a most healthy climate.

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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,

MAGDALEN

No.	NAME OF PLACE.	Vessels.				Fishing Boats.		Flat Boats.		No. of Fishermen.	No. of Shoremen.	Salmon Nets.			Cod Seines.		
		No.	Tons.	Value.	No. of Sailors.	No.	Value.	No.	Value.			No.	Yards.	Value.	No.	Yards.	Value.
				$			$		$					$			$
	AMHERST ISLAND.																
1	Pleasant Bay, Amherst Harbor	6	205	5800	29	38	1140	42	252	112	76	..	....	....	..	..	..
2	Basin	..	....	.....	....	20	600	2	12	40	38	..	....	....	..	..	..
3	Mill Cove	..	....	.....	...	9	270	4	24	22	22	..	....	....	..	..	..
4	Cabin Cove	..	...	.....	....	35	1050	6	36	82	80	..	....	....	..	..	..
5	West Cape	..	....	.....	....	4	120	2	12	10	10	..	...	....	..	..	..
	GRINDSTONE ISLAND.																
6	Etang du Nord	...	....	.....	....	43	1300	40	200	109	117	..	....	....	..	..	..
7	Cape Mull	..	....	....	..	3	90	2	20	6	2	..	..	....	..	..	..
	ALLRIGHT ISLAND.																
8	House Harbor	14	569	19100	69	46	1380	34	324	142	152	..	....	....	..	..	..
9	Pointe Basse	..	....	.....	....	4	120	2	12	8	4	..	....	....	..	...	..
10	L'Anse à Elie	..	....	.....	....	4	120	2	12	9	7	..	....	...	..	...	..
11	L'Echourie	...	....	.....	....	1	30	....	.....	2	2	..	....	....	..	..	...
12	South Beach	..	....	.....	...	17	510	10	60	40	37	..	....	....	..	..	..
	COFFIN ISLAND.																
13	Grand Entry	...	....	... ..	....	13	390	4	24	26	26	..	....	....	..	..	..
14	BRYON ISLAND	..	....	.....	....	15	450	6	36	32	32	..	....	....	..	..	..
15	ENTRY ISLAND	..	...	.....	....	5	150	2	12	10	10	..	....	....	..	...	..
	Total	20	774	24900	98	257	7720	178	1036	656	615	..	....	...	..	..	..

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kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.

ISLANDS.

NETS AND SEINES.

Herring Seines.			Herring Nets.			Mackerel Seines.			Mackerel Nets.			Caplin Seines.			Launce Seines.			Seal Nets.			Brush Fisheries.	
No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Value.
		$			$			$			$			$			$			$		$
1	200	350	4	200	32	..	..	..	128	6400	1280	2	120	240	..	..	..	2	120	60	..	..
..	..	..	20	1000	160	..	..	..	51	550	510	..	..	..	..	..	..	..	..	..	..	..
..	..	..	11	440	88	..	..	..	83	4150	830	..	..	..	..	..	..	..	..	..	..	..
..	..	..	45	1803	360	..	..	..	49	2450	490	..	..	..	..	..	..	8	500	250	..	..
..	..	..	5	200	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	200	300	1	40	10	..	..	..	..	..	..	..	..	..	..	..	..	6	450	200	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	4	240	480	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	360	180	..	..
..	..	..	1	40	10	..	..	..	2	80	20	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	360	180	..	..
..	..	..	16	560	123	..	..	..	9	360	90	..	..	..	..	..	..	..	..	..	..	..
..	..	..	12	480	96	..	..	..	..	..	..	..	..	..	..	..	..	7	1200	600	..	..
..	..	..	9	360	72	..	..	..	4	200	40	..	..	..	..	..	..	..	..	..	..	..
..	..	..	1	50	10	..	..	..	16	640	160	..	..	..	..	..	..	..	..	..	..	..
2	400	650	125	5110	1006	..	..	..	342	14830	3420	6	360	720	..	..	..	33	2090	1470	..	..

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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men

MAGDALEN

No.	NAME OF STATION.	Salmon, barrels, (cured).	Salmon, (fresh in ice), lbs.	Salmon, (in cans), lbs.	Salmon, (smoked), boxes.	Summer Fishing. Cod, quintals.	Fall Fishing. Cod, quintals.	Haddock, quintals.	Ling, quintals.	Halibut, barrels.	Herring, barrels.
	AMHERST ISLAND.										
1	Pleasant Bay, Amherst Harbor	....	.....	.....	....	1948	.....	....	....	....	2008
2	Basin	....	.....	. ..	...	1010	190	..	....	...	175
3	Mill Cove	...	.....	.....	...	550	150	....	...	....	80
4	Cabin Cove	...	.....	.. .	....	1972	300	....	....	....	288
5	West Cape	...	.....	.....	....	180	50	...	....	....	40
	GRINDSTONE ISLAND.										
6	Etang du Nord	....	.....	.....	.. .	2290	580	....	...	....	712
7	Cape Mull	....	.....	....	....	.....	.....	....	....	....	....
	ALLRIGHT ISLAND.										
8	House Harbor	...	.....	.. .	....	6634	.....	....	....	....	23
9	Pointe Pas e	....	.....	....	....	15	.....	....	....	....	30
10	L'Aire à Bie	....	.....	.....	....	26	.....	....	...	....	30
11	L'Echourie	....	.....	.....	....	.....	.....	...	...	....	.....
12	South Beach	....	.....	.....	.. .	324	.....	...	....	....	188
	COFFIN ISLAND.										
13	Grand Entry	....	.....	.....	..	340	.....	...	....	....	138
14	BRYON ISLAND	....	.....	.....	....	384	49	....	....	....	129
15	ENTRY ISLAND	....	...	....	....	56	.....	...	....	...	16
	Total	..	....	.....	....	15729	1319	....	...	....	4847

800 barrels Herrings, value $800, to the United States; remainder

RECAPITU

VALUE OF THE DIFFERENT

			$ cts.	$ cts.
Summer Cod Fishery	15,729 quintals		@ 4 00	62,916 00
Autumn do	1,319 do		5 00	6,595 00
Mackerel Fishery	5,497 barrels		10 00	54,970 00
Herring do	4,847 do		3 00	14,541 00
No. of Seals	5,590 do		6 00	33,540 00
Seal Oil	19,685 gallons		0 80	15,748 00

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kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Continued.*

ISLANDS.

Smoked Herring, boxes.	Mackerel, barrels.	Trout, barrels.	Sardines, barrels.	Eels, barrels.	Tunney, barrels.	Cod Tongues and Sounds, barrels.	No. of Seals.	No. of Seal Skins.	No. of Whales.	No. of Porpoises.	Oils. Seal Oil, gallons.	Whale Oil, gallons.	Porpoise Oil, gallons.	Cod Oil, gallons.	Fish used as Manure. Herring, barrels.	Capelin, barrels.	Smelt, barrels.	Cod Roes, barrels.
....	2865	....	....	....	....	....	1300	1300	..	....	3000	....	....	700	.....	.....	....	....
....	310	....	....	....	....	....	60	60	....	....	180	....	....	300	.....	.....	....	....
...	350	....	....	....	....	....	30	30	....	..	100	....	...	100	.....	.....	....	....
....	250	....	....	....	....	..	250	250	.	....	700	....	....	700	.....	.....	...	....
....	43	....	...	....	....	....	30	30	....	....	85	....	....	100	.....	....	....	....
....	350	....	....	....	....	....	200	200	....	....	600	....	..	1000	.....	.....	....	....
...	70	....	....	..	....	....	60	60	....	....	180	....	....	.....	.....	.....	....	....
....	92	....	....	...	....	....	3350	3350	....	....	12950	....	....	2900	.....	.....	....	....
....	45	....	....	....	....	....	16	16	....	....	50	....	...	.....	.....	.....	....	....
....	85	....	...	....	....	....	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....
....	....	....	....	....	....	....	80	80	....	....	240	....	....	.....	.....	.....	....	...
....	512	....	....	....	...	....	.....	.....	....	....	.....	...	....	100	.....	.....	....	....
.. .	310	....	....	...	..	....	134	134	....	....	400	....	....	50	.....	.....	....	....
....	165	....	....	....	....	....	80	80	....	....	250	....	....	100	.....	.....	....	....
....	50	....	...	...	....	....	.....	.....	....	....	.....	....	....	.....	.....	.....	....	....
...	5497	...	....	. ..	....	....	5590	5590	....	....	19685	....	....	6050	... .	....	....	....

to Halifax, Quebec, and other Provinces in the Dominion.

LATION.

FISHERIES OF THE MAGDALEN ISLANDS DIVISION.

		$ cts.	$ cts.
Cod Oil	6,050 gallons, at	0 50	3,025 00
Total value of the products of the fisheries, 1873			191,336 00
do do do 1872			126,541 00
Increase			64,795 00

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ANTICOSTI DIVISION.

My annual Report of last year contained the following paragraph :—

"A newly formed and powerful company now proposes to open the material "resources of this Island, and induce a thrifty class of settlers to occupy its fine "lands. Its prospectus is already published, and its conditions of settlement are of the "most advantageous kind. Every one must feel happy in seeing such a spirit of enter- "prise as animates this company, and it is to be hoped that success will crown their "endeavors." I am compelled to say that these expectations were only partly realized, owing undoubtedly to unforeseen and unavoidable circumstances. Early in the spring the Company went fairly to work, and enticed, by promises contained in their prospectus, 71 families from Newfoundland and Cape Breton, left their homes to form a new colony on the Island. Of these, 51 settled at Ellis Bay, on the south-west side of Anticosti; 15 at English Bay, on the north-west side, close to West Point; 10 at Salt Lake, and 21 at Fox Bay on the north-east side. They were all composed of the hardiest class of fishermen, and well qualified for their position. Inured to hardships of all kinds they came there with the intention of settling permanently, and earning a livelihood by means of farming and fishing. Great difficulties of all sorts had to be overcome during the summer, and through the mismanagement of the Company's Agent a famine was apprehended had not timely relief been sent before the close of navigation. These things must of course be expected more or less in the beginning of any enterprise of this kind; but they should not, however, lead the shareholders to discouragement. The Company is animated with the best possible spirit, and will, I have no doubt, execute in time every part of their prospectus. There is no reason whatever why success should not crown their efforts, and the Island become ultimately settled in a prosperous and profitable manner, the soil being of an excellent quality, timber abundant—and although not of the largest size, is well adapted for ship-building—and the fisheries around the whole Island of the greatest wealth, value and importance.

What is most desirable, and I might say indispensable now, is telegraphic communication between the Island and Gaspé or some other point on the mainland, by which the hitherto desolate coasts of Anticosti be placed in relation with the rest of the world during all seasons of the year. Indeed, I am under the impression that this scheme forms part of the Company's prospectus, and will sooner or later be carried out.

Notwithstanding great difficulties of access, the shores of Anticosti are yearly visited by an increasing number of fishermen from Quebec as well as from the Maritime Provinces and the United States. In the same relation as the inexhaustible sources of wealth surrounding its coasts become better known, and the fertility of its soil more appreciated, so is the navigation around its shores better understood. Provided the weather be clear, one can see barges and schooners entering small bays, which are called harbors merely for want of a better term, and there boldly riding gales and storms which formerly they would have dared to face only in open sea.

The best harbors on the coast of Anticosti are Ellis or Gamache Bay, on the south side, distant about eight miles from West Point Lighthouse, where vessels of one draught of water, from ten to fifteen feet, can ride the worst gale; Salt Lake Bay, sheltered against all winds, except south and south-east; Fox Bay, on the north side of the Island, fifteen miles distant from East Point lighthouse, where schooners drawing from eight to eleven feet of water can find good shelter, except against south and south-east winds when heavy anchors are required, owing to the hard bottom of the harbor; English Bay also affords good shelter to small schooners of from five to eight feet, but vessels of a larger class are not in safety. With these exceptions, shelter can hardly be found even for fishermen's barges in very fine weather. The dangerous shoals which surround Anticosti have rendered our people more prudent, and in consequence no accidents have occurred amongst them.

There are now four lighthouses on this island, one at the West Point, another at the South-west Point, the third at South Point, and the fourth at East Point. The

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South Point lighthouse is supplied with a steam fog-whistle, which with a fair wind can be heard at a distance of from nine to fifteen miles, and in stormy weather from three to eight miles. Provision depôts for the relief of wrecked crews are also stationed at the three last named lighthouses.

Although the coasts of Anticosti were this year frequented by a larger number of fishermen than in 1872, the statistics show a great falling off in the catch compared with previous years. The best fishing was done on the south side of the Island. Cod made its appearance there about the month of June, and disappeared by the end of August. On the north side the catch was middling, averaging 75 quintals per boat. Cod-fishing began very early in English Bay, and about forty barges from the coast of Labrador went there before fishing had commenced on their own shores, and caught about 450 quintals of fish. Twenty-two schooners, mostly from the Maritime Provinces, also fished in English Bay during the months of June and July, and secured complete cargoes, amounting to 3,350 quintals, with crews numbering 496 men. The quantity caught in 1872 was 12,414 quintals, with 238 men.

Mackerel did not make its appearance along the shores of the Island this year. The catch of 1872 amounted only to 20 barrels. A slight difference is also noticed in the yield of herring; the figures for 1872 being 49 barrels against 59 this season.

Want of fish was not the only drawback our fishermen had to contend with; the stormy weather which almost incessantly prevailed during the whole of the season compelled them to lose half of their time.

Four or five American schooners fished for halibut in the neighborhood of Cape Observation, but as none of the crew went ashore, I cannot either give the names of the vessels or value their catch.

In spite of the frequent storms which prevailed during the season it is a source of congratulation that no wrecks had to be recorded on the coasts of the island. One schooner, however, went ashore in trying to sail out of harbor, where anchorage had ceased to be safe owing to a sudden change of wind. It was also reported that a ship had been seen aground in the fall at East Point with sails loose on the yards, but the sudden close of navigation prevented us from obtaining details of this accident.

The two fishery guardians whom I placed on the island by direction of the Department to enforce the fishery laws, and especially those relating to salmon-fishing, faithfully and efficiently discharged their duties, and I am happy to be able to state that the service was performed in a much better and cheaper manner than in previous years. I would, therefore, respectfully recommend the continuance of a system which suits the locality perfectly, and ensures fair and practical protection to the salmon fishery.

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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,

ISLAND OF

No.	NAME OF PLACE.	Vessels.				Fishing Boats.		Flat Boats.		No. of Fishermen.	No. of Shoremen.	Salmon Nets.			Cod Seines.		
		No.	Tons.	Value.	No. of Sailors.	No.	Value.	No.	Value.			No.	Yards.	Value.	No.	Yards.	Value.
				$			$		$								$
1	Salmon River	..	....	.....	....	2	....	2	....	3	....	4	....	...	..	..	..
2	Morattion	..	....	.....	....	7	..	5	..	18	....	..	....	....	..	..	..
3	Cape Observation	..	....	.....	..	5	....	2	....	15	..	..	....	....	..	..	..
4	Oro Point	..	....	.....	....	4	....	3	....	11	....	..	....	....	..	..	..
5	Potatoes River	..	....	...	....	3	...	1	....	8	....	..	..	....	..	..	..
6	Caplin Bay	..	....	.....	....	10	....	4	...	30	...	1	....	....	..	..	.
7	McDonald's Cove	..	....	.....	....	12	....	9	....	41	...	2	....	....	..	..	..
8	South West Point	1	....	.....	3	16	....	14	....	33	19	..	330	....	1	..	..
9	East Bay	..	....	.....	....	1	....	1	....	2	1	..	....	....	..	..	..
10	Lac Salè	..	....	...	....	13	....	12	...	26	12	..	....	....	..	..	..
11	Little Lac Salè	..	....	.....	....	4	....	4	....	7	3	..	..	...	..	..	..
12	Shallop Creek	..	....	.....	..	1	....	4	....	....	....	..	122	...	..	..	..
13	English Bay	..	....	.....	....	50	....	38	....	106	22	..	240	....	..	..	..
14	Indian Cove	..	....	.....	...	3	....	3	....	6	3	..	....	....	..	..	..
15	English Harbor	1	....	.....	....	2	....	1	....	6	....	..	....	....	..	..	..
16	West Point	21	..	.....	....	25	....	24	....	114	7	..	....	....	..	..	..
	Total	23	....	.....	3	158	....	127	....	426	67	7	752	....	1	..	..

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kind of Nets used, kind of Fish and Fish Oils, &c., &c.

ANTICOSTI.

NETS AND SEINES.

Herring Seines.			Herring Nets.			Mackerel Seines.			Mackerel Nets.			Capelin Seines.			Launce Seines.			Seal Nets.			Brush Fisheries.	
No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Value.
		$			$			$			$			$			$			$		$
..	....	....	2	....	...	..	..	..	7	....	....	..	....	....	..	....	....	..	....	....	....	.....
..	....	....	14	....	....	1	..	..	..	....	....	1	....	....	..	....	....	..	....	....	....	.....
..	....	....	5	....	....	..	..	..	..	....	....	1	....	....	..	....	....	..	....	....	....	.....
..	....	....	9	....	....	..	..	..	..	....	....	1	....	....	..	....	....	..	....	....	....	.....
..	....	....	3	....	....	..	..	..	..	....	....	1	....	....	..	....	....	..	....	....	....	.....
..	....	....	17	...	....	..	..	..	3	.. .	....	2	....	....	..	...	....	..	....	....	. ...	.....
2	....	....	28	....	....	..	..	..	..	....	....	2	....	....	..	....	....	..	....	....	....	.....
..	....	....	27	....	....	..	..	..	1	....	...	..	.. .	....	..	....	....	..	....	....	....	.....
..	....	....	2	....	....	..	..	..	..	...	....	..	....	....	..	....	....	..	....	....	....	.....
..	....	....	24	....	....	..	..	..	1	....	....	2	....	....	..	...	....	..	....	....	....	.....
..	....	....	8	....	....	..	..	..	1	....	...	..	....	....	..	....	....	..	....	....	...	.....
..	....	....	...	....	....	..	..	..	..	....	..	..	....	...	..	....	....	..	....	....	....	.....
..	....	....	66	....	....	1	..	..	..	....	....	6	....	....	..	....	...	..	....	....	120	.....
..	....	....	6	....	....	..	..	..	..	....	....	..	....	....	..	....	....	..	....	....	6	.....
..	....	....	1	....	....	..	..	..	1	....	....	1	....	....	..	....	....	..	....	....	....	.....
..	....	....	25	....	....	10	..	..	..	....	....	9	....	....	..	....	....	..	....	....	11	.....
2	....	....	236	....	....	12	...	...	14	.....	....	26	..	....	...	. ..	...	..	....	....	137	.....

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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,

ISLAND OF

No.	NAME OF STATION.	Salmon, barrels, (cured).	Salmon, (fresh in ice), lbs.	Salmon, (in cans), lbs.	Salmon, (smoked), boxes.	Summer Fishing. Cod, quintals.	Fall Fishing. Cod, quintals.	Haddocks, quintals.	Ling, quintals.	Halibut, barrels.	Herring, barrels.
1	Salmon River	15				30					11
2	Morattion					750					250
3	Cape Observation					400					42
4	Oro Point					250					115
5	Potatoes River					259					15
6	Caplin Bay					800					100
7	McDonald's Cove	3				1300					510
8	South West Point	15				646	219			46	167
9	East Bay					36				2	10
10	Lac Salé					431	45			30	130
11	Little Lac Salé					108				1	68
12	Shallop Creek	21									
13	English Bay					2072	315			25	183
14	Indian Cove					90	90			8	50
15	English Harbor					170				1	3
16	West Point					3080				9	40
	Total	54				10413	669			122	1694

RECAPITU

VALUE OF THE DIFFERENT FISHERIES

			$ cts.	$ cts.
Summer Cod Fishery	10,413	quintals, at	4 00	41,652 00
Autumn do	669	do	5 00	3,345 00
Mackerel do		barrels	10 00	
Herring do	1,694	do	3 00	5,082 00
Halibut do	122	do	5 00	610 00
Salmon do	54	do	16 00	864 00
Trout do	11	do	10 00	110 00

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kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Concluded.*

ANTICOSTI.

Smoked Herring boxes.	Mackerel, barrels.	Trout, barrels.	Sardines, barrels.	Eels, barrels.	Tunny, barrels.	Cod Tongues and Sounds, barrels.	No. of Seals.	No. of Seal-skins, each.	No. of Whales.	No. of Porpoises.	Oils. Seal Oil, gallons.	Whale Oil, gallons.	Porpoise Oil, gallons.	Cod Oil, gallons.	Fish used as Manure. Herring, barrels.	Capelin, barrels.	Smelt, barrels.	Cod Roes, barrels.
											141			11				
														250				
														100				
														120				
														80				
														250				
														510				
		11												259				
														10				
														170				
														55				
				3							51		3	990				
														135				
						1								1109				
		11		3		1					192		3	4109				

LATION.

OF THE ISLAND OF ANTICOSTI.

		$ cts.	cts.
Seal Oil	192 gallons	0 80	153 60
Cod Oil	4,109 do	0 50	2,054 00
Total value of the products of the Fisheries, 187[illegible]			53,170 00
do do do 187[illegible]			60,123 00
Decrease			7,053 00

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RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,

GENERAL RECA

No.	Name of Place.	Vessels.				Fishing Boats.		Flat Boats.		No. of Fishermen.	No. of Shoremen.	Salmon Nets.			Cod Seines.		
		No.	Tons.	Value.	No. of Sailors.	No.	Value.	No.	Value.			No.	Yards.	Value.	No.	Yards.	Value.
				$			$		$					$			$
1	County of Gaspé	28	2923	22600	145	969	30680	802	4814	2117	372	115	770	8798	5	160	320
2	do Bonaventure	...	....	.....	...	167	11218	253	2795	421	285	35	16269	7879	..	...	...
3	Magdalen Islands	20	774	24900	98	257	7720	178	1036	656	615	...	.....	.....	..	..	...
4	County of Saguenay	56	438	9800	127	588	19292	451	3299	1380	481	85	35832	4352	15	100	51
5	Anticosti	23	...	.....	3	158	.....	127	.....	426	67	7	752	.....	1	. .	...
	Total	121	4135	576300	373	2159	68910	1811	11944	5000	1820	242	43623	21029	21	260	371

No.	Name of Station.	Salmon, barrels, (cured).	Salmon, (fresh in ice), lbs.	Salmon, (in cans), lbs.	Salmon, (smoked), boxes.	Summer Fishing, Cod, quintals.	Fall Fishing, Cod, quintals.	Haddock, quintals.	Ling, quintals.	Halibut, barrels.	Herring, barrels.
1	County of Gaspé	680	.....	.....	....	63345	19858	875	....	95	3343
2	do Bonaventure	86	163910	18000	....	5060	6380	83	16	....	4200
3	Magdalen Islands	....	.....	.....	....	15729	1319	....	....	....	4847
4	County of Saguenay	1214	379016	.....	75	89559	3241	.. ..	....	241	8146
5	Anticosti	54	....	.....	....	10413	669	....	....	122	1694
	Total	1862	542926	18000	75	184106	31467	958	16	458	22230

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kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Continued.*

PITULATION.

NETS AND SEINES.

Herring Seines.			Herring Nets.			Mackerel Seines.			Mackerel Nets.			Capelin Seines.			Launce Seines.			Seal Nets.			Brush Fisheries.	
No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Yards.	Value.	No.	Value.
		$			$			$			$			$			$			$		$
6	180	150	1898	36480	14788	1	80	100	105	2795	630	112	3630	3250	15	300	224	..	.....	....	5	90
50	2040	1596	721	22712	6278	..	...	...	89	2999	1068	59	2776	1987	...	...	....	...	....	....	5	20
2	400	650	125	5110	1006	..	...	...	342	14830	3430	6	360	720	...	....	..	33	2090	1470	...	.....
21	200	120	148	2030	9164	6	168	160	13	295	105	38	1000	804	64	162	140	16	9406	1808	....	.....
2	....	....	236	.....	.....	12	...	...	14	.....	....	26	....	....	...	....	....	...	.....	....	137	.....
81	2820	2516	3128	66332	31236	19	248	260	563	20919	5223	241	7766	6761	79	462	364	49	11496	3278	147	110

Smoked Herring, boxes.	Mackerel, barrels.	Trout, barrels.	Sardines, barrels.	Eels, barrels.	Tunny, barrels.	Cod Tongues and Sounds, barrels.	No. of Seals.	No. of Seal Skins.	No. of Whales.	No. of Porpoises.	Oils.				Fish used as Manure.			
											Seal Oil, gallons.	Whale Oil, gallons.	Porpoise Oil, gallons.	Cod Oil, gallons.	Herring, barrels.	Capelin, barrels.	Smelt, barrels.	Cod Roes, barrels.
16	643	32	....	10	...	172	1	.....	....	....	11792	....	140	49760	300	5330	150	....
800	27	5	....	8	....	26	.....	.....	....	....	.....	....	....	8125	3290	7525	...	....
....	5497	...	...	...	....	....	5590	5590	....	....	19685	....	..	6050	.....	.....	....	....
....	3	51	...	...	....	4	7225	1894	....	....	26976	400	....	23283	.....	.....	....	....
....	....	11	....	3	....	1	.....	.....	....	....	192	....	3	4109	.....	.....	....	....
816	6170	99	....	21	....	203	12816	7484	....	....	58645	400	143	91627	6290	12855	150	....

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NOTES ON THE RIVERS OF THE NORTH COAST, EAST OF NATASHQUAN.

During the course of the last two or three years, I have employed the little leisure at my disposal in collecting information respecting the nature of the coast of Labrador and of its inhabitants, but especially and chiefly of the rivers and streams which are quite numerous along that coast, with a view of ascertaining what facilities they offer to the rod of the sportsman. With a hope that the result of my observations may prove of service to the Department, I have prepared a short report embodying such facts as I have been able to obtain, and accompanied it with descriptions of some twelve rivers, compiled from reliable data gathered on the spot from local Fishery Guardians, residents, and other sources. With very little trouble and at comparitively small expense these data could be made more accurate and as reliable as could possibly be desired by means of a track survey. The Department would then be in possession of an accurate knowledge of the rivers and streams east of Natashquan, which, up to the present time it has been found impossible to afford sportsmen. Of the 16 rivers east of Natashquan, I have no doubt many of them would be found to be first-class angling streams, and in no way inferior to the Mingan and St. John. I feel confident that a survey of the kind mentioned could be done at a comparatively trifling cost, say from $300 to $400. The leasing of the angling streams would, in a single season, more than repay this outlay.

THE COAST OF LABRADOR.

General Description of the Coast.

What is generally known under the name of Labrador is that part of the north shore of the Gulf of St. Lawrence extending from Natashquan to Blanc Sablon, a distance of about 250 miles. This coast is dangerous at night and in fogs; and even in daytime and fine weather it requires the intimate knowledge of the position of every ledge, possessed by the fishermen, or a good chart on a large scale to navigate along it with safety. The mainland and islands are composed of granite rock, bare of trees except at the heads of bays, where small spruce and birch trees are met with occasionally. When not entirely bare the mainland and islands are covered with moss or scrubby spruce bushes, and there are many ponds of dark bog water, frequented by water fowl and flocks of the Labrador curlew. The mainland is indented by inlets and bays, and fringed with islands, rocks and ledges. In some parts these islands and rocks are so numerous as to form a perfect labyrinth, through which nothing but small schooners or pilot boats can find entrance; but although the navigation is more or less intricate yet there are several good harbors where schooners of from sixty to one hundred tons can find a safe entrance. The climate is very severe, and the dangers of the coast are increased tenfold by the fogs which accompany the prevalent southerly winds. The ice does not usually leave the coast before the end of May or beginning of June, and young ice begins to form again in the pools and small sheltered bays as early as September. Vegetation is very slow. I had new potatoes and lettuce on the 3rd September at Blanc Sablon, which is, however, considered an advantageous spot for the growth of vegetables.

When seen at a distance the green color of the moss covering the stones has all the appearance of splendid meadows, but on a near approach this delusion is soon over. In process of time the foliage and roots get rotten and form in the hollow of rocks a vegetable bed of from ten to twelve inches deep. Several industrious settlers have succeeded in utilizing this decayed vegetable matter by collecting the same and depositing it in sheltered places, thereby forming gardens and small fields where they raise potatoes and turnips. It will be easily conceived how painful such a labor must be when it is taken into account that there are no horses to cart this earth, and that the whole must be carried with the arms.

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The Inhabitants.

For the last few years the only permanent inhabitants on this part of the coast were a few widely scattered families residing at seal, salmon-fishing and fur-trading establishments, which are visited periodically by schooners from Halifax and Quebec; but now large establishments have been erected in numerous places, such as Esquimaux Point, Long Point, Mingan, St. John, Kegashka, Little Natashquan, Blanc Sablon, etc. These families, who chiefly come from the south shore, live but poorly, have nothing else to depend on but seal hunting, cod, and in some instances, salmon fishing. By looking over the books of the Hudson's Bay Company at Mingan, one is astonished to see the heavy debts contracted by these people, debts which they will hardly ever be able to discharge by the produce of the fishery alone. The principal cod-fishing establishments on the coast are managed by strangers, principally Jersey men, who always succeed in making money, whilst the Canadian people, resorting thither from the south coast, after nearly starving for a few years have to give it up. Some of these settlements are, however, steadily increasing in size and importance, such as Esquimaux Point, where, in 1871, there were no less than 158 families, numbering 862 people. This population mostly comes from Magdalen Islands, from which they have been driven by the high price of land and the oppressive system of tenure. Other spots, such as Little Natashquan, St. John River, Long Point, Bradore, etc., are in a fair way of progress. The families are all very large, numbering from twenty to twenty-four children generally. When at Natashquan, I once visited a small dwelling, and seeing them peering out from every hole and corner, I remarked to the mother that however lonesome the place might be in winter she at least had plenty of children to engage her leisures. She smiled, and replied that she had *only* fifteen. Chapels are built at the principal posts on the coast, several of which would do credit to older establishments, such as are at Esquimaux Point and Little Natashquan. There are resident missionaries at these two posts; from these two posts the other places are visited once or twice during the season. A Protestant missionary also resides at Bonne Esperance, in the neighbourhood of which most of the English settlers are located.

Their Mode of Living.

The hospitality of the inhabitants of the coast is proverbial. Ten strangers might remain for a whole week in a house, and no one would hint that their visit was becoming rather lengthy. This hospitality is even practised during the absence of the owners of the houses, as, for instance, during the season of salmon fishing, when families have to leave their ordinary residences to remove near the salmon streams. It was even a common practice to place at hand provisions and sometimes money for the accommodation of strangers calling there; but as the place is now frequented by a large number of strangers, I suppose that this practice may have become somewhat dangerous. Each family is usually provided with two houses, one on the island and the other on the mainland. The first is used during the season of seal hunting, herring and cod fishing; the latter during salmon fishing. Some people even have a third dwelling for the winter to be near to the bush, as it often happens that the house on the island is distant from 12 to 15 miles from the wood. Generally speaking the houses are clean, being divided in one general room and two bed rooms below with an attic above. The furniture is not certainly very luxurious, but everything necessary is found there. Most of the goods and provisions are purchased from Halifax traders in exchange for fish, oil and furs. Ample supplies are always secured for the winter, and with such populated centres as exist at Natashquan, Esquimaux Point, and a depôt at Long Point and Blanc Sablon, there is no apprehension of starvation as existed years past. The sea gives them all the fish they require during the summer and winter, wild fowl and eggs are in abundance, and fruits are very common. Red and fox berries and the celebrated bake apple are plentiful, and afford an agreeable change—their staple dishes all the year round being pork, fish and sea fowl.

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Their Mode of Travelling.

The country does not supply sufficient hay for the keeping of horses, which, besides, would be useless in the deep snow and in the absence of roads of any kind. Each family has therefore to keep five or six dogs constantly. During summer the dogs have an easy time, doing nothing else but eat, sleep and fight; but when winter comes this *far niente* is over. They must first help the master to haul in his supply of wood for the winter's use as soon as the bays are frozen. Five or six dogs with a *commétique* will draw a heavy load. The commétique is a small narrow sledge about 10 or 12 feet long, having runners shod with whalebone. This conveyance is well floored with seal skins, over which bear or seal skins are nailed all around to keep the travellers comfortable. A good team will travel easily from 75 to 90 miles a day. In the absence of any occupation during the long winter months it will be easily conceived that a good deal of travelling and visiting must take place. The settler and family often leave their house for a fortnight at a time paying visits to their distant neighbours, who in time follow them to share their hospitality. Such is the mode of spending winter on this lonesome part of the coast.

The Wild Fowls of the Coast.

The principal species of wild fowls frequenting the coast of the Gulf of St. Lawrence are as follows:—The eider duck, the black and silvery sutt, the mur, the gull, the guillemot, the razor bill auk or tinker, the puffin and the sea swallow. Jacques Cartier and the first navigators who visited Canada speak with admiration of the numberless quantities of fowl found on this coast. Although their number is greatly diminished, there are still enough left for the requirements of the settlers should there be a stop put to the depredations of eggers from Halifax and elsewhere. The gulls, tinkers, eider ducks, sutts, puffins, and guillemots are good eating during the spring and fall, but during the summer they have an oily taste which does not agree with every palate; this arises from their feeding on fish. The young ones are eaten during the whole of the summer; the flesh of the young sutt especially being delicious and tasting very much like chicken.

The dreariness of these coasts is somewhat alleviated by the presence of the sea birds. When sailing among the numerous islands I could see passing by thousands gulls, ducks, puffins, murs, &c. Sometimes from the tops of rocks, where they perch, they would salute us with their cries which are far from being harmonius; sometimes they would walk on the shores, looking for their dainty meals. It is said that an ordinary sized gull will swallow twelve caplins at a single meal. They can easily satisfy their appetite, the shore being at times strewn with dead caplins cast upon it by the receding tide. People on the coast gather them to feed swine during the winter.

As to the large quantity of eggs strewn on these Islands, although the ground is not literally covered with them in the same way as I have seen it covered with potatoes during the fall in Canada, still nests can be found at every ten steps, and in a small space covered with bush I counted no less than eight nests. The robbing of eggs or egging business as it is called is carried on extensively by Yankees and Nova Scotia fishermen. To escape detection they visit the coast on pretext of fishing. Their mode of dealing is as follows: they leave on the Islands several men to gather the eggs, which are buried in the sand until enough are collected to complete a cargo, when they depart and go home.

Should eggs which escaped their first researches become hatched, they again visit the Islands before the young ones can fly, kill and pluck them for the sake of their feathers, leaving heaps of flesh to rot on the beach. There is a general outcry against these lawless practices, but what can the Department do? The laws relating to game are under the control of the local Government. Neither can the officer in command of *La Canadienne*, nor the keepers of the guardians do anything without being empowered to act, and in a few years, if some practical steps be not taken to stop this reckless havoc, the feathered tribe of the Gulf will be a thing of the past.

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KEGASHCA RIVER.

Three miles west of Kegashca Bay, and 21 miles east of Natashquan, affords shelter to schooners of from 30 to 40 tons, and is very accessible. Salmon can ascend to the fourth falls. The stream between the third and fourth falls consists of a succession of rapids and little falls, all along which are nice pools for angling. The best spot for fly fishing would be at the foot of the fourth fall, six miles from the mouth. The water of the river falls to about three feet in summer, but attains a height of five or six feet during freshets.

Salmon enter the river about the latter part of June and ascend by the middle of July, the fishing is done from rocks; skiffs or canoes are required. This stream can accommodate two rods. Average size of fish 18 pounds, largest 25 pounds. Catch by nets in 1871, 12 barrels.

At some distance above the fourth fall the river spreads out into a lake, and consists of a series of small lake expansions thence to its source.

LITTLE MUSQUARRO RIVER.

Thirty miles east of Natashquan. A narrow and dirty stream, with mud and sand banks at its mouth, nearly closing the entrance. The river becomes nearly dry in summer. It is considered to be worth nothing as an angling stream. Salmon merely visit the estuary at high tide, and do not ascend the river to spawn.

There are no salmon in Grand Musquarro River.

WASHEECOOTAI RIVER.

This pretty stream is situated about sixty miles east of Natashquan. It affords good shelter for schooners. Salmon ascend to the falls distant about ten miles from its mouth. These they cannot surmount, but ascend to a lake about eight miles above by means of a branch of the main river on the east side, which also drains the lake. The angling pools lie between the place where the river narrows and the falls. This part of the river consists of a succession of falls and rapids, affording many good pools for the fly. The fishing is done from rocks. The stream can accommodate three rods. The water falls to about three or four feet in summer. Salmon enter about the latter end of June. Largest size of fish about 25lbs. Catch by nets in 1871, fifteen barrels.

OLOMANOSHEEBOO, OR LA ROMAINE RIVER.

Forty miles east of Natashquan. It affords good harbor for schooners. The tide flows two miles up the river. There are three rapids from mouth of the river to the falls. Salmon easily surmount these falls, and repair above to spawn. This stream runs on a fine gravelly bottom. It is five or six feet deep in the summer. The fishing pools, which would most likely be from the foot of the rapids to the falls, are easily reached. Salmon ascend the river about the middle of July. The river can easily accommodate three rods. The weight of fish is from twenty to twenty-five pounds. Average catch by nets twenty barrels.

COACOACHOO RIVER (CARCAJOU).

Is not an angling stream. It flows along a wide and shallow channel full of boulders, and drains the waters of a large lake to which boats can ascend with the tide. It rises three or four feet in Lake Salé; second lake is joined to Lake Salé by the Coacoachoo River, which, leaving the former, bifurcates, and after running some distance again joins before falling into the second lake. This part of the stream forms a succession of rapids, and is very shallow, it being scarcely possible even for bark canoes to go over them. Salmon are never seen to jump in it. It is, however, a good trout stream, and fish of from five to nine pounds are caught in Lake Salé. Catch of salmon by nets in 1871, seven barrels.

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ETAMAMIOU RIVER.

Empties into the Gulf of St. Lawrence about seven and a half miles east of Cape Whittle, 538 miles from Quebec. It is a very rapid stream, having its source at the height of land dividing Labrador from Hudson's Bay. Being generally narrow, it however widens in several places, forming large lakes with deep and still waters.

Early in spring or after heavy rains the river swells considerably, when it becomes almost impossible to ascend it. At a distance of about three miles from the mouth an island divides the stream into two parts. On the west side of this island is a heavy fall which salmon cannot surmount; they ascend by the east side where occurs a succession of rapids of from four to five arpents in length. This stream is totally unfit for angling, consisting as it does of nothing else but a succession of rapids and boulders. At certain seasons of the year it can be ascended to a distance of about four miles from the mouth, but then only with the greatest difficulty. Indians themselves when going inland ascend by Coacoachoo River until above the rapids, whence towards its source there is a chain of lakes, and the ascent is afterwards comparatively easy.

NETAGAMIOU RIVER.

Is not a salmon stream. No nets are set within the river, but there are a couple of stands outside. On each side of its entrance is a sandy beach backed by a thick growth of spruce trees. It is a large stream with deep water in the narrow entrance, and thence also close up to the falls, which descend perpendicularly on each side of an island and into a basin half a mile in width. These falls can be seen from the sea.

GRAND MECCATINA RIVER.

Excellent harbor at Mutton Bay, and good shelter for schooners in entrance of river up to foot of rapids. The tide runs up to the falls a distance of five miles. The first rapids are over flat stones. Falls offer no obstacle to ascent of fish. This stream is pretty rapid. The best angling pools would likely be found at foot of first falls, and in north-east branch where salmon enter to spawn. Being fed by large lakes in the interior its level is almost always the same, with a depth of water varying from six to eight feet. Salmon ascend the river from the latter end of June to 15th July. Largest size of fish, 25 lbs. Catch with nets in 1871, 30 barrels.

LITTLE MECCATINA RIVER.

The Little Meccatina River discharges its waters by several narrow channels, with boulders and small rocky islets to the north and west of Little Meccatina Island. The river is large and falls 30 feet over granite strata a short distance within the entrance, and about two and a quarter miles from the north end of the island. It is not a salmon stream.

KECARPWI RIVER.

An insignificant stream about 15 miles west of St. Augustine. No salmon enter this river.

ST. AUGUSTINE RIVER.

Is 40 miles west of St. Paul's. Although smaller than the latter, it is still a large stream, and of considerable length. It empties into a bay full of rocky islands. Its mouth is formed of shifting sand banks. Schooners anchor in St. Augustine harbor outside, three miles below the Hudson's Bay Company's Post. This river is formed of two branches, the north-west branch and the north-east, or main river, which receives the tributary river, Aux Mouches.

Salmon ascend the main river to a distance of 80 miles above the first rapids.

The river Aux Mouches is also visited every fall by a large number of fish resorting thereto for the purpose of spawning. Both branches are easily ascended in flats or

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canoes, but the river sometimes falls very low in summer. Salmon ascend by the latter end of June. The fishing is from rocks. Largest size of fish, 25 lbs.

CACOSHEEBOO RIVER.

(*Rivière au Porc Epic*),

Marked on Bayfield's Charts as "Carkewechepe River," affords good shelter for schooners at its mouth. Salmon easily ascend to Head Lake. It can be ascended to the lake in boats. Fly-fishing likely to be at second rapids, nine miles from Post. Catch with nets in 1871, 10 barrels.

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APPENDIX C.

RETURN of Fishing Stations, Yield, Value, Kinds of Fish, &c., on the South Shore of the River St. Lawrence, from Point Levis to Cape Chatte, during the year 1878.

NAME OF PLACE.	No. of Fishermen.	KINDS OF NETS USED.									KINDS OF FISH.								
		Salmon Nets.			Brush Fisheries with Nets.		Brush Fisheries.		Eel Fisheries.		No. of Salmon.	No. of Shad.	Herrings, barrels.	No. of Eels.	Sturgeon, barrels.	Sardines, barrels.	Bar and White Fish, doz.	Small Fish, barrels.	Fish for Manure, barrels.
		No.	Yards.	Value.	No.	Value.	No.	Value.	No.	Value.									
				$		$		$		$									
Pointe Levi	....	....	....	....	4	184	....	.....	....	.....	161	3,624	.....	.. ...	3	....	130	....	....
Beaumont	....	....	....	....	3	440	....	....	....	.....	202	6,500	.....	.....	11	....	1,080	....	....
St. Michel	1	....	....	....	1	75	....	.....	....	.....	60	2,500	.....	.....	....	....	80	....	....
St. Valier	1	....	....	....	2	600	....	.....	....	.....	80	3,000	....	2,000	20	....	2,000	....	....
Berthier	1	....	....	....	1	70	....	....	14	132	25	500	.... ..	4,450	....	....	.....	....	....
St. Thomas	....	....	....	....	....	.....	11	333	6	73	.....	.....	.....	3,225	194	...	15,802	370	...
Anse à Gilles	....	....	....	....	....	.....	....	... .	4	58	.....	.....	.....	1,650	....	....	.....	....	....
Cap St. Ignace	...	....	....	....	....	.....	....	.....	11	215	.....	.....	.....	3,255	...	....	.....	....	....
L'Islet	....	....	....	....	....	.....	1	40	40	564	.....	.....	.....	16,110	....	....	50	6	....
St. Jean, Port Joli	....	....	....	....	....	.....	....	.....	20	255	.....	.....	.....	7,140	....	....	.....	....	....
St. Roch	....	.. .	....	....	....	.....	....	.....	22	430	.....	.....	.....	12,960	....	....	.....	....	....
Ste. Anne	....	....	....	....	....	.....	5	340	18	488	.....	650	.....	19,019	56	10	3,100	202	....
Rivière Ouelle	....	....	....	....	....	.....	1	150	14	790	.....	.....	.....	5,900	4	3	2	....	....
Petite Anse St. Denis	....	....	....	....	....	.....	....	.....	36	2,520	.....	.....	.....	21,495	....	....	.....	....	....
St. Denis	....	.. .	....	....	....	.....	1	50	16	467	.....	150	.....	6,100	....	1	.....	2	....
Kamouraska (including adjacent islands)	....	....	....	....	....	.....	3	240	7	93	15	25	.....	540	2	44	65	1	4
St. André	....	....	....	....	....	.....	2	300	20	231	.....	275	6	1,465	2	45	.. ...	....	...
Notre Dame du Portage	....	....	....	....	....	... .	....	....	17	149	.....	.. ...	.....	875	....	....	.....	....	...
Rivière du Loup	....	....	....	....	....	.....	2	285	4	75	95	....	220	50	1	30	.....	....	...
Cacouna	....	....	....	....	....	.....	16	1,250	1	10	287	1,197	947	100	2	21	.....	....	250
Ile Verte	....	....	....	....	....	.....	7	330	....	.....	39	100	113	400	1	....	.....	....	6
Isle Verte (mainland)	....	....	....	....	..	.....	50	3,680	..	.....	118	.....	6,724	.....	2	714	.....	....	128
Trois Pistoles	....	....	....	....	1	18	3	85	....	.....	112	...	140	.....	....	....	.....	....	146
St. Simon	....	....	....	....	8	172	1	20	....	.....	846	.....	20	.....	....	....	.....	....	30

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[RECAPITULATION of the Yield and Value of the Fisheries from Point Levis to Cape Chatte.

No. Salmon nets.	No. Brush fisheries with nets.	No. of Brush fisheries.	No. of Eel weirs.	No. of Salmon.	No. of Shad.	No. of barrels of Herring.	No. of barrels of Sardines.	No. of barrels of Sturgeon.	No. of Eels.	No. of barrels of small mixed fish.	No. of barrels of fish for manure.	No. of Bar, Pickerels, and White fish.	No. of Porpoises.	REMARKS.
9	23	144	151	4726	18,094	12,545	868	298	96,734	581	684	24,309	6	A further improvement is still noticeable in the Salmon fishery; Herring fishing was good: whilst the increase in Eels amounts to nearly 25,000. The injurious practice of using small fish for manure appears to be gradually falling off.

	$
Number of Salmon, 4,726, at $1.00 each	4,726
do Shad, 18,094, at 10 cents each	1,809
do Eels, 96,734, at 10 cents each	9,673
do barrels of Herring, 12,545, at $4.00 per barrel	50,180
do do Sardines, 868, at $5.00 per barrel	4,340
do do Sturgeon, 298, at $8.00 per barrel	2,384

	$
Number of barrels of Small fish, 581, at $5.00 per barrel	2,905
do dozens of barrels of Pickerel and Whitefish, 2,025, at $1.00 per dozen	2,025
Number of Porpoises, 6, at $40.00 each	240
do barrels of fish for manure, 684, at 25 cents per barrel	171
Total	78,453

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APPENDIX D.

RETURN of Fishing Stations, Yield, Value, Kinds of Fish, &c., on the North Shore of the River St. Lawrence, from Quebec to Bersimis, during the year 1873.

NAME OF PLACE.	No. of Fishermen.	KINDS OF NETS USED.									KINDS OF FISH.								
		Salmon Nets.			Brush Fisheries with Nets.		Brush Fisheries.		Eel Fisheries.		No. of Salmon.	No. of Shad.	Herrings, barrels.	No. of Eels.	Sturgeon, barrels.	Sardines, barrels.	Bar and White Fish, doz.	Small Fish, barrels.	Fish for Manure, barrels.
		No.	Yards.	Value.	No.	Value.	No.	Value.	No.	Value.									
Island of Orleans :—				$		$		$		$									
St. Laurent		3	480	200							150	1,600			3		24		
St. François, north side of the Island							9	145	3	30				842	28		234	29	
Argentenay									4	43				610					
St. François, south side of the Island									7	50				470					
Ste. Famille							12	246	4	23				604	45		161	32	
Chateau Richer							4	75						94	6		22	4	
Ste. Anne							2	18	8	76				702	1		6	1	
St. Joachim									5	250				3,150					
St. Joachim (Farm)									13	231				1,760					
St. Joachim (Parish)									13	160				970					
Baie St. Paul							1	20	14	174				1,755					
Cap au Corbeau									11	224				1,335					
Ile aux Coudres							15	274	60	612				3,921				36	
La Misère							1	10	14	299				850					17
Petit Rivière St. François Xavier									61	2,358				44,735					
Les Eboulements							11	220	19	168				1,020				49	797
Cap aux Oies							3	60	4	60				325					207
St. Irènée							5	320	3	18				165		1		3	500
Pointe au Pic							1	30			3							3	
Malbaie and Cap à l'Aigle		1	20	20			7	165			16							3	27
Port au Saumon		1	40	60			1	15			20					1			14
St. Fidèle							1	10										1	
Rivière Noire		1	108	60							20								
Port aux Quilles		1	120	60							40								
Rivière au Canard		1	110	60							30								

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RETURN of Fishing Stations, Yield Value, Kinds of Fish, &c., on the North Shore of the River St. Lawrence, from Quebec to Bersimis.—*Concluded.*

NAME OF PLACE.	KINDS OF NETS USED.										KINDS OF FISH.								
	No. of Fishermen.	Salmon Nets.			Brush Fisheries with Nets.		Brush Fisheries.		Eel Fisheries.		No. of Salmon.	No. of Shad.	Herrings, barrels.	No. of Eels.	Sturgeon, barrels.	Sardines, barrels.	Bar and White Fish, doz.	Small Fish, barrels.	Fish for Manure, barrels.
		No.	Yards.	Value.	No.	Value.	No.	Value.	No.	Value.									
				$		$		$		$									
Pointe au Bouleau	1	....	....	....	....	....	1	25	....	....	12	....	....	....	....	....	....	....	....
Moulin Baude	1	1	60	60	....	....	....	....	....	....	206	....	....	....	....	....	....	....	....
Anse Puante	1	1	90	60	....	....	....	....	....	....	211	....	....	....	....	....	....	....	....
Pointe Cariole	1	1	60	60	....	....	....	....	....	....	296	....	....	....	....	....	....	....	....
Anse à la Cave	....	....	....	....	....	....	1	15	....	....	8	....	....	....	....	....	....	8	13
Mille Vaches	....	....	....	....	....	....	1	25	....	....	2	....	....	....	....	....	....	6	12
Baie des Bacons	....	....	....	....	....	....	2	35	....	....	....	....	....	....	....	....	....	3	10
Petite Romaine	....	....	....	....	....	....	1	20	....	....	3	....	....	....	....	....	....	1	5
Tadousac	....	....	....	....	....	....	1	30	....	....	....	....	....	....	....	....	....	10	100
Caille à Tetu	1	1	48	80	....	....	....	....	....	....	136	....	....	....	....	....	....	....	....
Petite Escoumain	....	....	....	....	....	....	1	30	....	....	6	....	....	....	....	....	....	8	15
Escoumain	3	2	100	80	....	....	1	30	....	....	121	....	....	....	....	....	....	....	....
Islets Jérémie	1	1	45	35	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Ilets Penchés	3	2	210	210	1	....	1	25	....	....	540	....	....	....	....	....	....	....	....
Port Neuf	1	1	70	70	....	....	....	....	....	....	150	....	....	....	....	....	....	....	....
Patte de Lièvre	1	1	60	60	....	....	....	....	....	....	110	....	....	....	....	....	....	....	....
Baie de Laval	....	1	60	60	....	....	....	....	2	10	200	....	....	400	....	....	....	....	....
Pointe au Colombier	1	1	45	35	....	....	....	....	....	....	180	....	....	....	....	....	....	....	....
Bersimis	....	....	....	....	....	....	....	....	....	....	300	killed by the Indians			....	....	....	....	....
Total	15	21	1726	1270	1	.....	83	1,843	245	4.780	2,760	1,600	.....	6,708	83	2	447	197	1717

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APPENDIX E.

GENERAL Recapitulation of the Yield of the Fisheries on the North and South Shores of the River and Gulf of St. Lawrence, from Quebec to Blanc Sablon, and from Point Levi to Bay des Chaleurs, during the year 1873.

Quantity of Fish.	Price.	Value. 1873.	Value. 1872.
	$ cts.	$ cts.	$ cts.
Summer Cod-fishing, 184,106 cwt.	4 00	736,424 00	707,440 00
Autumn do 31,467 do	5 00	157,335 00	204,465 00
Ling, 8 barrels	5 00	40 00	135 00
Mackerel 6,176 do	10 00	61,700 00	17,590 00
Herring 54,770 do	3 00	104,310 00	87,141 00
do (smoked) 816 boxes	0 25	204 00	65 00
Sardines 870 barrels	5 00	4,350 00	2,955 00
Halibut 458 do	5 00	2,290 00	2,055 00
Salmon (pickled) 2,042 do	16 00	32,672 00	5,480 00
do (in ice, fresh) 632,758 lbs	0 05	31,637 00	.....
do (in cans) 18,000 do	0 20	3,600 00	.....
do (smoked in boxes) 75 boxes	30 00	2,250 00	.....
Trout 99 barrels	10 00	990 00	1,030 00
Sturgeon 381 do	5 00	1,905 00	10,200 00
Eels 160,543 per 100	10 00	16,054 00	10,840 00
Cod Tongues and Sounds, 203 barrels	7 00	1,421 00	1,232 00
Seal Oil 58,645 galls.	0 80	46,916 00	36,892 80
Whale Oil 400 do	0 80	20 00	13,549 60
Porpoise Oil 143 do	0 50	71 00	537 50
Cod Oil 91,627 do	0 50	45,813 00	68,264 50
Haddock 479 barrels	5 00	2,395 00	1,715 00
Bar and White Fish 24,756 dozen	2 00	49,512 00	6,322 00
Mixed Fish 778 barrels	4 00	3,112 00	4,452 00
Shad 19,694 each	0 10	1,969 00	1,995 00
Fish used as Manure 21,712 barrels	0 25	5,428 00	4,387 75
Number of Porpoises			1,000 00
do Seals 12,816 each	6 00	76,896 00	51,930 00
do { Lobsters 1-lb. cans } 15,000 lbs	0 15	2,250 00	13,258 00
Total		1,391,564 00	1,320,189 05

A. J. SMITH,
Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
Fisheries Branch, Ottawa, 1873.

(Certified.) W. F. WHITCHER.

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APPENDIX F.

STATEMENT of the Number and Tonnage of Vessels, with the Number of Men, engaged in exporting the Products of the Sea Fisheries at the Magdalen Islands to places within the Dominion of Canada, during the Season of 1873. From Returns furnished by the Collector of Customs at Amherst Island.

No. of Vessel.	Name of Vessel.	Master's Name.	Tons.	Men.	Whence Exported.	Description and Quantity of Cargo.							Value.
						Dry Codfish.	Pickled Codfish.	Pickled Herring.	Mackerel.	Cod Oil.	Seal Oil.	Seal Skins.	
						Cwts.	Brls.	Brls.	Brls.	Galls.	Galls.	No.	$
1	Susan	Walker	19	4	Port Hukesbury	.....	.....	300	.....	.....	.....	.....	300
2	Fleetwing	Bernier	47	5	Halifax	.....	.....	.....	.....	.....	.....	260	260
3	Engedi	Cormier	23	4	Buctouche, N. B.	.....	.....	300	.....	.....	10	.....	305
4	Lillian	Proctor	44	10	Port Richmond	.....	.....	.....	400	.....	.....	.....	3,200
5	Mary Ellen	Reeves	22	6	Port Mulgrave	.....	.....	.....	200	.....	.....	.....	1,600
6	Two Brothers	Henley	23	5	Halifax	.....	.....	.....	100	.....	.....	.....	800
7	Annie Belle	Leslie	41	13	Spry Bay	.....	.....	.....	400	.....	.....	.....	3,200
8	Lavina Elizabeth	Hawes	23	11	do	.....	.....	.....	380	.....	.....	.....	3,040
9	Eliza A	Hawes	39	6	do	.....	.....	.....	240	.....	.....	.....	1,920
10	P. Martin	Murphy	19	5	Halifax	.....	.....	.....	120	.....	.....	.....	960
11	Glad Tidings	Jackson	30	4	do	433	.....	.....	.....	450	.....	89	1,829
12	Ruby	Oliver	33	4	do	294	.....	.....	.....	.....	1,597	3,731	5,558
13	Fleetwing	Bernier	47	5	Pictou	35	.....	.....	185	.....	.....	.....	1,603
14	Elizabeth	Logan	42	4	Spray Bay	.....	.....	.....	300	.....	300	.....	2,550
15	Fleetwing	Bernier	47	5	Quebec	6	48	.....	195	.....	1,402	.....	2,474
16	Flirt	Manthorne	8	3	Prince Edward Island	.....	.....	.....	50	.....	.....	.....	400
17	Esperance	Chiasson	51	5	Halifax	450	.....	.....	220	.....	1,000	800	4,635
18	Britain	Leslie	76	5	Quebec	10	.....	150	.....	30	1,120	.....	760
19	Haro	Bouchard	50	5	Picton	21	.....	.....	.....	30	.....	.....	89
20	Mary	Boudreau	34	4	Halifax	400	.....	.....	.....	.....	2,700	.....	2,760
21	Ruby	Oliver	33	4	do	158	.....	.....	28	.....	3,940	.....	2,747
22	Delaney	Viqueau	43	5	Quebec	112	.....	.....	10	2,480	2,000	.....	2,712
23	Victoria	Newcomb	33	5	Halifax	200	.....	.....	100	.....	800	535	2,435
24	Artic	Arseneau	52	5	Quebec	150	.....	.....	.....	800	2,480	.....	2,125
25	Britain	Leslie	76	5	Spry Bay	500	.....	.....	200	.....	.....	.....	3,350
26	Fleetwing	Bernier	47	4	Halifax	600	.....	.....	30	.....	.....	.....	2,340
27	Lion	Richard	41	5	do	800	.....	.....	35	.....	.....	.....	3,080
28	Olivia	Hamilton	52	5	Port Hood	83	.....	.....	350	.....	.....	.....	3,090

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29	Mary	Arseneau	34	5	Halifax	700							2,450
30	Victoria	Newcomb	33	4	do	208			180		400		2,368
31	Anuie Belle	Leslie	41	5	Spry Bay	300			280	300			3,440
32	Flora	Boudreau	34	5	Halifax	400			180	320			3,000
33	Greenock	Terrieau	39	5	do	750			50	40			3,045
34	Esperance	Laplerre	51	5	Quebec	300	160		60	640	1,000		2,990
35	A. Painchaud	Bourgeois	47	5	Halifax	500			86				2,438
36	Marie Louise	Cormier	21	5	do	200			100	200			1,600
37	Lion	Richard	41	5	do	700		9	69	200			3,111
38	President	Turbide	31	5	do	740			12				2,686
39	Artic	Arseneau	52	6	do	1,300			50				4,950
40	Stella Maris	Arseneau	47	6	do	1,000			160				4,780
41	Delaney	Viqueau	43	5	do	500			240	30			3,685
42	Dolphin	Richard	52	5	do	920		12	134				4,304
43	Jenny Lind	Turbide	39	5	do	600			100				2,900
44	Archangel	Jomphe	40	5	do	900			50				3,500
45	Annie	Terrieau	41	5	do	800			12				2,896
46	Haro	Bouchard	51	5	Pictou	4			6				62
47	Anemone	Fitzgerald	13	3	Prince Edward Island			150					150
48	Hero	McKay	29	3	do			500					500
49	Sea Slipper	Dickson	15	3	do			180					180
50	Flirt	Manthorne	8	3	do				60				480
51	Ruby	Oliver	33	4	Halifax	390			77				1,961
52	Feetwing	Bernier	47	5	Montreal	70	250	25		400			1,540
			1,978	263		15,534	458	1,626	5,449	5,920	18,669	5,415	119,128

A. J. SMITH,
Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
FISHERIES BRANCH, OTTAWA, 1873.

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RETURN of the Number and Tonnage of Vessels, with the Men, Boats, and Nets engaged in the Spring Mackerel Fishing at the Magdalen Islands, during the Season of 1873.

Name of Vessel.	Master.	From whence.	Tons.	Men.	Boats.	Nets.	No. of Barrels of Fish.
Lillian	Proctor	Port Richmond	44	10	4	80	300
Eliza A.	J. Haws	Spry Bay	39	8	3	60	240
Lavina and Elizabeth.	R. Haws	do	23	12	6	140	380
Two Brothers	Henley	do	23	5	2	40	100
Annie Belle	Leslie	do	41	12	6	120	400
P. Marton	Murphy	Ship Harbor	19	5	2	26	120
Mary Ellen	Reeves	Port Mulgrave	22	6	3	60	200
Total, 7 Vessels.			211	58	26	526	1,740

RETURN of the Number and Tonnage of Vessels, with the Boats and Men engaged in the Seal Fishery at the Magdalen Islands, during the Season of 1873.

Name of Vessel.	Master.	Tons.	Men.	Boats.	No. of Seals taken.
Delaney	Vigneau	43	10	4	150
Archangel	Jomphe	40	10	4	150
Greenock	Terrieau	39	10	4	150
President	Turbide	30	10	4	130
Dolphin	Richard	52	10	4	425
Mary Ann	Arseneau	36	10	4	150
Jane Amelia	Turbide	48	10	4	150
Jenny Lind	Cheverie	39	10	4	150
Arctic	Arseneau	52	10	4	150
Temperance	do	36	10	4	300
Annie	Terrieau	41	10	4	500
Stella Maris	Arseneau	47	12	4	425
Lion	Richard	41	10	4	480
Flora	Boudreau	34	10	4	400
Cutter	Cormier	27	9	3	150
Esperance	Chiasson	51	10	4	550
Clarinda	Vineau	25	5	2	.....
Total, 17 Vessels		681	166	65	4,410

A. J. SMITH,
Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
FISHERIES BRANCH, OTTAWA, 1873.
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General Statement of the catch of Fish by Magdalen Island Vessels in 1873.

Name of Vessel.	Name of Outfitter.	Tonnage.	No. of Flat Boats.	No. of Fishing Boats.	No. of Sailors.	No. of Fishermen.	No. of Shoremen.	No. of Herring Seines.	No. of Caplin Seines.	No. of Mackerel Nets.	No. of Herring Nets.	No. of Seals.	Cwts. of Cod-fish.	Cwts. Haddock.	Brls. Mackerel.	Barrls. Herring.	Galls. Seal Oil.	Galls. Cod Oil.
House Harbor.																		
Annie	J. & R. Delaney	41	4	3	5	10	10	....	1	....	....	500	550	....	....	....	2,000	220
Lion	F. Arseneau & Long	41	4	3	5	10	10	....	....	....	....	480	500	....	....	....	1,920	200
Dolphin	William Johnston	52	4	4	5	12	12	....	....	....	....	425	600	....	....	....	1,600	300
President	do	30	4	3	5	10	10	....	....	....	....	130	400	....	....	....	500	220
Archangel	N. Jomphe	40	4	3	5	10	10	....	1	....	....	150	500	....	....	....	550	180
Delaney	J. & R. Delaney	43	4	3	5	10	10	....	1	....	....	150	550	....	....	....	600	200
Temperance	F. Arseneau & Long	36	4	3	5	10	10	....	....	....	....	300	440	....	....	....	1,100	190
Jenny Lind	P. Turbide	39	4	3	5	10	10	....	....	....	....	150	650	....	....	....	500	300
Jane Amelia	W. Leslie & Co.	48	4	4	5	12	12	....	....	....	....	150	500	....	....	....	550	200
Mary Ann	William Johnston	36	4	3	5	10	10	....	....	....	....	150	.....	....	....	....	600	.....
Arctic	F. Arseneau & Long	52	4	4	5	12	12	....	1	....	....	150	550	....	....	....	550	250
Stella Maris	W. Leslie & Co.	47	4	4	5	12	12	....	....	....	....	425	600	....	.	....	1,700	300
Greenock	D. Terrieau	39	4	3	5	10	10	....	....	..	....	150	500	..	....	....	600	200
Clarinda	F. Arseneau & Long	25	2	2	4	6	6	....	....	....	....	.....	200	..	....	....	. ....	80
Total, 14 Vessels		569	54	42	69	134	144	. ..	4	...	....	3,310	6,540	....	....	....	12,830	2,840
Amherst Harbor.																		
Flora	E. Chiasson	34	3	4	6	10	10	....	1	....	....	400	400	....	....	..	1,650	180
A. Painchaud	D. Devos	47	3	....	5	10	10	....	1	....	....	.....	450	....	....	....	.....	200
Cutter	J. B. Painchaud	27	2	3	5	9	9	....	....	....	....	150	260	....	....	....	640	100
Engedi	do	25	2	....	4	7	7	....	....	....	....	.....	280	....	....	300	.....	100
Marie Louise	G. Cormier	21	2	....	4	7	7	....	....	....	....	.....	300	....	....	....	.....	110
Esperance	do	51	....	4	5	10	....	....	....	....	....	550	.....	....	....	....	2,000	.....
Total, 6 Vessels		205	12	11	29	53	43	....	2	....	....	1,100	1,690	....	....	300	4,290	690

For Recapitulation see next page.

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GENERAL STATEMENT of the catch of Fish by Magdalen Island Vessels in 1873.—*Continued.*

RECAPITULATION.

House Harbor	13 Vessels	569	42	54	69	134	144	....	4	....	....	3,310	6,540	....	....	....	12,830	2,840
Amherst do	6 do	205	12	11	29	53	43	....	2	....	....	1,100	1,690	....	....	300	4,290	690
Grand Total	20 do	774	54	65	98	187	187	....	6	....	....	4,410	8,230	....	....	300	17,120	3,530

A. J. SMITH,
Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
FISHERIES BRANCH, OTTAWA, 1873.
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Total Export of Fish and Oil from Magdalen Islands during the Season of 1873.

Foreign.	Dry Codfish.	Pickled Codfish.	Herrings.	Mackerel.	Cod Oil.	Seal Oil.	Whale Oil.	Seal Skins.	Value in Dollars.
	Cwts.	Bbls.	Bbls.	Bbls.	Gals.	Gals.	Gals.	No.	$ cts.
To United States			800						800 00
Total			800						800 00
Coastwise									
To Province of Quebec	648	458	175	265	4,350	7,922			12,531 00
do Nova Scotia	14,886		321	5,074	1,570	10,737		5,415	104,582 00
do New Brunswick			300			10			305 00
Prince Edward Island			830	110					1,710 00
Total	15,534	458	1,626	5,449	5,920	18,669		5,415	119,128 00
Grand Total	15,534	458	2,426	5,449	5,920	18,669		5,415	119,128 00

For Recapitulation see next page.

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RECAPITULATION.

Of Fish and Oil Exported from the Magdalen Islands during the Season of 1873.

COASTWISE.

Whence Exported.	Vessels.			Description and Quantity Exported.							Value
	No.	Tons.	Men.	Dry Codfish.	Pickl'd Codfish	Pickled Herring	Mackerel.	Coal Oil.	Seal Oil.	Seal Skins	
				Cwt.	Bbls.	Bbls.	Bbls.	Gals.	Gals.	No.	$ cts.
Province of Quebec	6	316	30	648	458	175	265	4,350	7,922	.....	12,531 00
do Nova Scotia	40	1,566	214	14,886	.....	321	5,074	1,574	10,737	5,415	104,582 00
do New Brunswick	1	23	4	.....	.....	300	.....	.....	10	.....	305 00
do Prince Edward Island	5	73	15	.....	.....	830	110	.....	.....	.....	1,710 00
Total	52	1,978	263	15,534	458	1,626	5,449	5,920	18,669	5,415	119,128 00

DEPARTMENT OF MARINE AND FISHERIES,
FISHERIES BRANCH, OTTAWA, 1873.
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Minister of Marine and Fisheries.

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APPENDIX G.

SYNOPSES OF FISHERY OVERSEERS' AND GUARDIANS' REPORTS IN THE PROVINCE OF QUEBEC FOR THE SEASON OF 1873.

SOUTH SHORE DIVISION, FROM POINT LEVIS TO CAPE CHATTE.

DAMASE GUAY,
HERMENEGILDE MARTIN,
L. E. GRONDIN,
} *Overseers.*

This Division was formerly under the care of Mr. Alfred Blais, but upon his resignation it was divided into three divisons on account of its great extent and the difficulty of properly guarding it with but one overseer. The first division now extends from Point Levis to Rivière Ouelle, and is in charge of Mr. Damase Guay; the second division commences at River Ouelle and ends at Rimouski, and is under the care of Mr. Herménégilde Martin; the third division extends from Rimouski to Cape Chatte, and is in charge of Mr. L. E. Grondin.

Fishing in these three divisions was about equal to former seasons. Point Levis and Beaumont sections present a decrease in eels and an increase in salmon; while Berthier, St. Thomas, Anse à Gilles, Cap St. Ignace, L'Islet, St. Jean Port Joli, St. Roch, St. Anne and River Ouelle sections show a large increase in the catch of eels.

L'Isle Verte (mainland), Trois Pistoles, St. Simon, Anse à Mercier, Anse aux Sable and Islet Cannel show an increase in the catch of salmon and herrings, while other places show a falling off in both. The following comparative table exhibits the yield of the fisheries for the last six years:—

—	1868.	1869.	1870.	1871.	1872.	1873.
Value of Salmon (pieces)	4,545	5,758	9,574	4,432	3,374	4,725
do Shad do	32.242	26,987	16,249	25,035	18,410	18,094
do Herrings (brls.)	30.117	13,135	6,671	2,169	7,174	12,545
do Sturgeon do	350	369	219	242	130	208
do Sardines (tinnets)	11 702	10,262	6,688	1,443	1,058	868
do Cod (quintals.)	3.100	4,600	4,900	2,200	300	.....
do Eels (pieces)	160 242	99,500	109,125	109,204	73,352	96,734
do Porpoises	12	77	208	115	6	.....
Total Value	$195,770	125,952	108,830	48,251	54,087	78,218

From this statement it will be seen that the value of fish caught within this section during the past season exceeds that of last season by over $24,000.

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Forty-three salmon were caught with the fly in Rimouski River this season, of an average weight of 17 lbs. 11 oz. The following is the salmon angling score in Rimouski River for the last nine years :—

1865	8	salmon.
1866	32	„
1867	36	„
1868	48	„
1869	57	„
1870	18	„
1871	68	„
1872	47	„
1873	43	„

There were caught in Metis River as follows :—

1870	19	salmon.
1871	30	„
1872	52	„
1873	57	„

being a steady increase since 1870.

Matane River was angled only for six days ; twelve salmon were caught. Now that a new and improved fishway has been built over the mill dam, it is confidently expected that the river will steadily improve, and will in a few years become again what it formerly was—an excellent salmon stream.

CAPE CHATTE DIVISION.

JOSEPH J. LETOURNEAU, *Overseer.*

The statistics of the yield of the fisheries of this Division annexed to Dr. Lavoie's Report, show a large falling off in the catch of cod. The reason of such decrease is thus accounted for by the overseer :

"The fish were not as abundant as usual on the shores of this division during the summer, most of the catch having been made in August, bait was also exceedingly scarce. Another cause of failure is to be found in the fact that most of the people were engaged working on the Intercolonial Railway, or at the mills and shanties on the Magdalen River, where they were certain of securing steady work and remunerative wages. The others seeing fish so scarce, did not even take the trouble to put out their barges, and gave all their attention to their farms."

If cod-fishery was a failure, salmon-fishery in return was a great success. For instance, a stand of nets near Cape Chatte River, which had never before yielded more than four barrels of salmon, took eighteen barrels this season. Although the fishing was good in Ste. Anne des Monts River, it would have been still better had not the nets been carried away by freshets. Angling was excellent, compared with previous years, as the following table shows :

In 1871 there were caught with the fly	8	salmon.
„ 1872 „ „ „	13	„
„ 1873 „ „ „	87	„

of an average weight of 17½ lbs., largest fish 30 lbs.

During a visit to the upper part of the river, the Overseer noticed that the pools were full of spawning fish as far as the Chick Chock Mountains.

Trout were abundant in the Cape Chatte River. Magdalen river was not angled last season, but the local guardians report it as being well stocked with salmon.

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GASPÉ DIVISION.

JOSEPH EDEN, jun., *Overseer.*

Details of the yield of fisheries in this Division will be found at Appendix B. If dependence be placed on the figures of Dr. Lavoie, salmon net fishing would appear to be steadily falling off in this Division in exception to all other districts. The following figures are those furnished by him:—

In 1870	541	barrels.
„ 1871	460	„
„ 1872	343	„
„ 1873	294	„

But on closer inspection it is perceived, by tabulating the figures given in Dr. Lavoie's return of licenses issued, that the yield in the Gaspé and Perce divisions amounted to about 430 barrels, exclusive of the produce of seven other stations not reported by him. Even as corrected these figures under-rate by one-fourth the true catch. Another evidence of the unreliable character of the local fishery overseer's returns, the figures of which appear to have been adopted by Dr. Lavoie without critical examination, exists in the apparent omission to reckon the quantity of salmon disposed of in a fresh state within this division. Steps will be taken to ascertain the meaning of such discrepancies, and should it be proved that the whole catch of salmon in the Gaspé division decreases in an inverse ratio to the endeavours made to increase the breeding stock and maintain a supply in the streams, and restore the rivers as nurseries for the coast and estuary fishings, then something must be radically wrong, either in the extent and mode of netting, or the supervision and guardianship of the officers paid and sworn to enforce the fishery laws, to promote the restoration of the salmon fisheries, and to protect the public interests. It is very unsatisfactory that neither the local overseer nor the general officer in charge should inform this Department of the working of the system or the causes of contradictions, with a view to understanding and remedying any defects. Their conflicting and defective statements become, if possible, still more perplexing when compared with the condition and produce of the Gaspé fisheries as described in the newspaper press by Mr. Joseph Eden, sen., according to whom the facts are exactly of an opposite character.

The St. John River yielded to the anglers 111 fish, of an average weight of 13 lbs., and the York 85 fish. One of the salmon caught with an artificial fly in the latter river weighed 45½ lbs., on arrival at Ottawa ten days after capture.

MALBAIE DIVISION.

THOMAS MCCALLUM, *Overseer.*

This officer was appointed last season, but he appears to have a very imperfect knowledge of his duties. The Malbaie River shows no signs of improvement, and this state of things will undoubtedly continue so long as it is not placed under proper and intelligent guardianship, and a stop put to the spearing of eels, under pretext of which it is positively asserted large numbers of salmon are destroyed and others driven away from the estuary.

PABOS DIVISION.

JAMES M. REMON, *Overseer.*

There is a decline in the cod fishery returns of this division compared with those of last year. This is not, however, to be attributed to a scarcity of fish, but to the very unfavorable weather experienced during the greater part of the season. The fish struck in late in the spring, and although they were abundant on the banks during the fall, only

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a few of the most hardy fishermen succeeded in making good fares, the weather keeping very rough and uncertain. Trawl fishing appears to be more generally adopted and proves quite successful in fine weather. Bait was abundant during the spring and fall.

Salmon net fishing shows an increase over last year's catch. It would have shown still better results had the weather been more favorable. The lateness of the spring kept the rivers high and caused strong currents along the sea coast, which prevented the setting of nets.

In 1871 the catch amounted to.....			49	barrels.
„ 1872	„	„	53	„
„ 1873	„	„	67	„

Salmon have been seen in large numbers in the Grand and Little Pabos Rivers; in the latter especially a considerable increase is noticed. In the West River of Pabos the fish are returning to the stream and several were seen this summer. The passage in the mill dam is kept clear. Angling for salmon in the Grand River yielded 72 fish of an average weight of 13 lbs. Largest salmon caught weighed 32½ lbs.

PORT DANIEL DIVISION.

WILLIAM PHELAN, *Overseer.*

This officer reports as follows:—"Salmon fishing has been a success here this season, the greatest part of the fish being caught during the first two weeks in June. It was the best fishing during that period that was ever known to be made in Port Daniel Division, showing also the largest run of salmon. The nets were nearly all taken up by 20th July. Salmon fishing is evidently improving, and the fishermen appear to fully appreciate the beneficial effects of the fishery laws and regulations.

"Cod fishing was rather below the average during the summer, but the fall catch made up the previous deficiency, notwithstanding the frequent storms and rough weather the fishermen had to contend with.

"Mackerel appeared to be scarce in Port Daniel Bay. A fleet of American fishing schooners came in about the end of June, but remained only a few days and did not return.

"Herring were very plentiful during both the spring and summer. Owing, however, to the want of a market, our fishermen took only what will supply the local consumption.

"Caplin was abundant, affording bait to the fishermen and manure to the farmer.

"One offender was punished for having caught salmon in his nets on Sunday."

NEW RICHMOND DIVISION.

R. W. H. DIMOCK, *Overseer.*

The division assigned to this officer extends along a distance of 33 miles of coast, and comprises three salmon rivers—the Grand and Little Cascapedias and the Bonaventure. Large quantities of fish of various species are caught within these limits, such as cod, herring, mackerel, salmon, haddock, ling, halibut, trout, smelt, caplin, and lobsters. The two largest fishing establishments in the County of Bonaventure are situated within the limits of this division—those of Messrs. Charles Robin and Co., and Messrs. Le Boutillier Brothers.

Spring herring struck in as plentiful as usual in Paspebiac, New Carlisle, Bonaventure and New Richmond. Very few were, however, taken for market, most of them being used for local consumption and as manure. In fact, nobody paid any attention to these fish, there being at present no market for them. Fall herring were abundant.

Mackerel were caught to be sold only as bait in the mackerel fishery. About 27 barrels were salted for market. From the 30th June to the 1st July 49 sails, supposed to be American schooners, were seen off New Richmond, but afterwards disappeared.

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Codfish appeared as early and in as great abundance as last season, but up to the 1st September, owing to the employment of so many fishermen at the Intercolonial Railway and the new bridge across the Bonaventure River, the catch was 1,255 quintals less than in 1872. Later in the season, the work having stopped, the fishermen again returned to cod fishing with very fair success, the yield being only about 300 quintals less than last year. Very few halibut were caught in this division, except one now and then in fishing for cod.

Trout were also very plentiful this season, and we may expect a good many persons to engage in this fishing next season.

Salmon are increasing rapidly, so much so that this year's catch has again astonished many, and made those who were formerly opposed to the fishery laws compare the beneficial results derived from their effectual working with the position of this fishery in former years. When they see sportsmen eagerly repairing to our rivers, giving employment to our people, spending money freely, and acting kindly and generously towards the inhabitants; when they see 140 salmon, the produce of 24 hours' net fishing, stretched side by side on the beach at the Grand Cascapedia ferry, waiting for carts to take them to Mr. Hogg's curing establishment, where the owners receive seven cents a pound for them; and recollect that a few years ago they would not see 100 salmon during the *whole season* (and those killed with the spear), they begin to appreciate the wisdom and advantage of placing our salmon fisheries under a judicious system of protection."

The following figures show the result of salmon net fishing in this division for the last four years :—

Year.	Weight.	Average Weight.	Heaviest Salmon.
	lbs.	lbs.	lbs.
1870	23,797	17	54
1871	14,068	19	43½
1872	25,264	17¾	42
1873	35,363	17	54

Comparing the catch of this season with that of last year, it is found that there is an increase of 10,099 lbs., which increase is within 3,769 lbs of the total catch of 1871. This is sufficient to convince the most sceptical of the beneficial results derivable from an energetic application of the laws and regulations applicable to salmon fishery.

This overseer reports the rivers in his division well stocked with breeding fish and salmon fry, especially in the Grand Cascapedia. Even in the lower pools they were so numerous as to make it impossible to count them. The Little Cascapedia is also much better stocked with breeding fish than last season. The local guardian, who went up the river several times as high as the Forks, states that he saw a number of salmon on each trip, and on the last visit counted 42 near the Forks.

The Bonaventure River was angled only for a few days, but according to the guardian's report it is well supplied with breeding fish, no less than 40 having been seen in one pool at Spence Island.

The figures below show the statistics of angling in this division :—

	Grand Cascapedia.				Little Cascapedia.				Grand Bonaventure.			
	1870.	1871.	1872.	1873	1870.	1871.	1872.	1873.	1870.	1871.	1872.	1873.
No. of salmon caught.	17	44	136	68				11	.....	60	30	22
Weight in lbs.....	340	1,012	3,100	1,434	Not fished.			194	.....	770	487	366
Average weight in lbs.	20	23	22⅞	21½				17½	.....	13	16	16½

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The Grand Cascapedia was angled during 11 days; sportsmen having arrived too late. The largest fish caught weighed 35 lbs.

The Little Cascapedia was fished for a day and a-half, and this too late in the season. Catch, 11 fish; the largest of which weighed 34½ lbs.

The Bonaventure was angled for six days; the largest fish caught weighing 28 lbs.

On account of Mr. Hogg's closing his canning establishment early in the season, very few lobsters were taken in this division compared with the catch last year.

MARIA DIVISION.

ELMINE ALLARD, *Overseer.*

Salmon fishing was somewhat better than for the past two years, especially at Maria; the catch amounting to 40,148 lbs. for the whole of this division. Lobster fishing was not so productive as last year, only 15,000 lbs. having been caught—about two-thirds less than in 1872. Herring fishing was a failure, owing to the spring ice remaining so late in the Bay. Detailed statistics of the yield and value of the fisheries of this division will be found in Appendix B.

MATAPEDIA AND RESTIGOUCHE DIVISIONS.

JOHN MOWAT, *Overseer.*

The increase of salmon in this division, owing to the activity displayed by this overeer in the discharge of his arduous duties, as well as to the ready compliance of net fishermen with the laws and regulations affecting this fishery is most remarkable. Mr. Mowat says in his report:—

"This season has been a prosperous one for the net fishermen in my division; the catch in several localities being nearly double the usual quantity. Salmon commenced running in the Restigouche River about the 1st June, fourteen days earlier than last year, and for three weeks the fish were delivered at the canning establishments in such quantities that although extra provision had been made to put up a larger number than usual, the owners could receive the fish only about three days in five, fishermen having to salt the balance. Even then, I am sorry to say that one establishment lost 500 fish, being unable to put them up in time, whilst desiring not to disappoint fishermen in the sale of their fish, and hoping every day that the run would slacken, and they would be enabled to overtake the supply. I observed a larger proportion than usual of 10 and 12 lb. fish, this being attributable to the large stock of grilse in the previous year, which of course returned this season five and six pounds heavier. I believe, also, that a greater number of fish of that size were caught in the nets, as I have not observed them in any undue proportion in the river. I am of opinion that these grilse did not understand how to evade the nets as well as the large fish. The largest fish taken in tidal waters this season weighed 44 pounds. With a few exceptions, I experienced no trouble amongst the fishermen, they generally doing as ordered at the first warning. Close time was also strictly enforced, and as I warned every one that an infringement of the fishery laws would undoubtedly result in the loss of their stations, I found them most careful to comply therewith. Great difficulty is experienced in obtaining correct returns of the catch, evidently under an impression that this would lead to an increase of the license fee; I have therefore requested and obtained access to the books of the canning establishments, and every facility was afforded me by the owners.

"From the continued increase and prosperity which is now noticed in the salmon fishing of this division, we may safely rely on further improvement. I would therefore respectfully suggest the propriety of placing all stations above Dalhousie and Maguasha Point, at a uniform rental of one dollar per barrel, as the net fishermen are the real gainers by the protective system hitherto maintained by the Department, and which they now fully understand and appreciate. This rate, small as it is, would assist in repaying part of the expenditure, and give more general satisfaction. I may mention that one of

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the four stands, formerly fished by E. J. Stewart, and transferred by your orders to John Bailie, paid this season $35 license fee, whilst the former occupant paid only a fixed nominal rate of $6. Several applications were made to me for new stations; I only recommended one in New Brunswick, which was granted. I do not consider it would be injurious to the fishery should more nets be set below Campbellton, as the fish would have plenty of room outside, but above that point I would not advise any increase.

"Quantities of salmon caught and cured in the Restigouche Division in 1873.

Name.	Place.	Quantity at 6 cts.	Value.	How Cured.
		Lbs.	$	
Geo. Haddow	Athol House, Head Tide	100,000	6,000	Canned.
Hawick & Co	Campbellton	75,000	4,500	do
J. Windsor	Dalhousie	110,000	6,000	do
Fishermen	Restigouche	60,000	3,600	Salted.
Settlers, by permit	do	24,000	1,440	do
Local Consumption	do	10,000	600	do
Fly Fishing	Restigouche and Matapedia	9,000	540	do
		388,000	23,280	

"To this amount should be added the fish taken in Bonaventure, above Cascapedia, and cured at Maria, also most of the salmon caught in the County of Restigouche, N.B., above Bathurst Rivers, canned also in the lower end of that county, and amounting at least to 100,000 lbs., as I believe that all the above fish properly speaking belong to the Restigouche River, and were on their way up to it when caught.

"On my arrival home last spring, after visiting the Department, I communicated to the upper settlers on the Restigouche River the instructions given me with regard to the setting of nets in that part of the river for their own use and consumption, but not for barter or sale. Opposition was of course to be expected, especially from those who had been refused stations and had fished illegally. They also complained of the short period allowed for setting nets. Having a reliable staff of assistants, I gave them to understand that any infringement of the law would result in the loss of their privileges. They submitted, and caught more fish than ever before—none of them getting less than four barrels and some as many as six. Several attempts were made to sell, but having furnished the canning establishments with a list of all persons who were legally entitled to fish. I warned them that if caught buying from settlers, I would hold them personally responsible. This, together with the confiscation of a few fish, put an end to all trouble in that quarter. I have no doubt that were they not properly watched and checked, they would soon make a clean sweep of the river, in spite of every protestation to the contrary. Should the salmon continue to increase in the proportion expected, some of those who are now deprived of the benefits enjoyed by others might be allowed the same privilege if suitable stations can be found; but this permission will require to be exercised with the greatest caution and prudence. Having had occasion recently to search the houses of some of the settlers on the Matapedia Road for illegally caught salmon, I found a portion of three fish, which the woman stated she had purchased from an Indian. This might have been the case, the fish being so cut that I could not tell the spear mark, and I could find no net on the premises.

"The difficulties I experienced with the Mission Point Indians being treated of at length in Dr. Lavoie's report, it is unnecessary for me to revert to them here.

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"Angling was good on all the rivers of my division. The waters kept in capital order until the end of July, when the excessive drought caused them to fall so low that the fish did not care to rise to the fly. Anglers were all a little late, salmon running so early. On the Restigouche Division, No. 1, Mr. Brydges and party killed 96 fish in a week, average weight 17 lbs., largest fish 23 lbs. Mr. Fleming's party caught 345 salmon, exclusive of grilse. Other parties also fished on the main river, by special permission of the lessees, making the total number of salmon caught with the fly on the Restigouche River, 516.

"Mr. Stephen and party caught 63 fish in the Matapedia, of an average weight of 19 lbs. 10 oz. The largest fish weighed 39 lbs.

"The Upsalquitch was not angled this season; it is reported by the guardian as literally swarming with fish.

"Several salmon ascended the Patapedia, but I could not recommend it as a first class salmon river, the water being shoal and the pools small until a distance of some twenty-five miles is reached, where, from my experience, I do not think salmon would rise.

"The guardian of the Tom-Kedgwick informs me that this river is well stocked with breeding fish, especially the upper spawning grounds, which are situate some forty miles above its junction with the Restigouche. Salmon went up so early that they experienced no difficulty in reaching the head waters.

"The guardians on the Nouvelle and Escuminac have put a stop to the excessive netting for trout formerly carried on there. I should like to place some young salmon in Nouvelle River next spring; it was once a good salmon stream. The same in Little River, there being no trout in it. As for the Escuminac, the trout have possession of it, and it is too small for salmon.

"A very fine run of grilse and smelts appeared in August, and I can safely promise a prosperous fishing season for next year."

The fish breeding operations carried on in the Restigouche, under the supervision of Mr. Mowat, form the subject of a separate article, and are treated of at length in Appendix J.

The Department having directed Mr. Mowat to supply statistical information regarding the increase of salmon in the Restigouche division, he furnishes the following report:—

"Before the year 1868 the bulk of fish caught were salted, and were principally purchased by traders and local merchants. No. 1 fish, of which quality few were put up, were sent to Halifax, the balance of lower grade fish were shipped to Quebec, at an average price to the fishermen of from $8 to $10 per barrel.

"At the upper end of Bay des Chaleurs, three miles below the tide-head, Mr. George Haddow was the first successful operator in canning salmon; before 1869, from thirty to forty thousand pounds per annum was his annual average, with the exception of one year when the freshets and drift-wood destroyed the nets, together with the early running fish; the price obtained was five cents per lb., and was considered a great boon to fishermen, obviating the necessity of their finding salt and barrels. Since the period named, his annual cure of fish has regularly increased at a ratio of about 10 per cent; amounting this year (1873) to 100,000.

"In 1869 Mr. Howick, of the firm of Jones & Co., Portland and Boston, commenced business in the same line, three miles below Mr. Haddow, at Campbellton, and of course took a large proportion of the fish which otherwise would have gone to Mr. Haddow. Owing no doubt to this competition, the price for round fish was raised to six cents per lb., giving at once a large percentage of profit to the fishermen. Mr. Howick's increase of business has been equal to Mr. Haddow's; from 17 or 20,000 lbs. to 75,000 lbs. So satisfactory has this been to him that, assured of a continued increase, he has built substantial accommodation and enlarged his premises. Three years ago he also commenced at Maria another establishment of the same description, twenty miles below Dalhousie, and with the same result, viz., increasing from 35,000 to 75,000 lbs. I may also state that Mr. Haddow is now engaged in doubling the capacity of his present establishment.

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Mr. Jos. Windsor has an establishment for the same purpose at Dalhousie. In 1869 he was satisfied with from 15 to 20,000 lbs.; this season he employed 21 men, and canned over 100,000 lbs., besides salting a quantity. The rush of fish was so great for two weeks that all the establishments were compelled to salt more or less, and in some instances the fishermen had, for a time, to salt their own fish. There is still another canning establishment below Dalhousie, at which some 50,000 lbs. were cured this season, and for which, I understand, Mr. Howick is in treaty for another season.

I believe a large proportion of the fish caught at the lower establishments are Restigouche fish. It is well known that the salmon keep to the shore in seeking their native rivers, and the difference is so marked between a Cascapedia and a Restigouche fish that the persons employed in the canning establishments at once detect the difference, and I am credibly informed that one half of the fish put up at Maria this season belonged to Restigouche.

At present prices, I consider the difference between the old method of salting (exclusive of salt and barrels, trouble and labor, and of having to wait before returns can be made for the sale of the fish) to be fully 33 per cent. in favor of the fishermen. I expect still a further increase in the price of fresh fish, particularly salmon, as they will preserve in ice longer than any other fish, as soon as the Intercolonial Railway is opened.

I think I am quite within the mark in stating the average increased production of the fisheries since 1869 at 300 per cent.

You will also bear in mind that although a few new stations have been opened since 1869, fewer nets are actually in use, owing to the curtailment of those which used to be set to an indefinite length across channels. The observance of Saturday and Sunday close time, together with the thorough protection given to the fish on reaching their breeding rivers, chiefly the Kedgwick and Patapedia; and last though not least, the abolishment of the spear have been the means of producing this gratifying result.

As to the fly fishing, before 1868, he was an adept who could take a salmon in our river with the fly—a few still remained, but what with spears and nets they were chased to death, and were so wild as to make it impossible to get near them. One might, by chance, see a flash of something under water, and if experienced, he could tell it was a salmon on observing a piece of his skin torn by the spear, or the white rings around his body caused by the abrasion of the nets. This is all changed now—if the fish do not rise to the angler, it is not from their wildness or scarcity of numbers, but simply their disinclination to do so.

In conclusion, I may say that owing to frequent fall freshets, as well as to heavy run of ice, tearing up the river-beds in many places, during the spring and fall, a steady yearly increase cannot be foretold with certainty; but when the fish-breeding establishment is in full operation, turning into the river every year half a million of young fry in addition to the protective laws now in force, complete assurance may be given of a continuous increase, making this river one of the foremost salmon streams in our northern Provinces."

QUEBEC AND MONTMORENCY DIVISION.

D. Rosa, *Guardian.*
L. P. Huot, *Overseer.*

Mr. Rosa has charge of the lakes in the neighbourhood of Quebec. He reports an abundance of trout and no violations of the law.

As stated in last year's report, Mr. Huot's division comprises the lakes in the counties of Montmorency and Charlevoix, and the fishing stations around the Island of Orleans.

Reference to Appendix D will show the details of the yield of each fishery in this division. Fishing this year was not nearly so good as last season; a considerable decrease is noticeable in almost every kind of fishing, such as eels, bar, whitefish and sturgeon. The returns for 1872 show the catch of eels to have been 21,932 against 9,202 for the present year, and that for sturgeon 1,901 barrels in 1872 against 83 in 1873. There is

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however a marked improvement in the salmon fishery. The yield was nearly double that of last year, being 150 fish against 82 in 1873, and this fish was noticed to enter rivers where it had rarely been seen before. Mr. Huot reports that he was credibly informed that one angler caught sixteen salmon in one day in the River Ste. Anne du Nord.

Trout were abundant in all the lakes of this division.

Four salmon were caught with the fly in the Du Gouffre River, averaging 15lbs. weight.

MURRAY BAY DIVISION.

C. DEMEULE, *Guardian.*

On account of the difficulty which was experienced last year in securing reliable information from this division, and the protracted illness of the present overseer, the duty of collecting the necessary information on this subject was this year entrusted to the neighbouring officer, Mr. Huot.

The fisheries in this division did not yield such large returns as last year.

The following figures show the yield of the principal fisheries for the last three years :—

	1871.	1872.	1873.
Number of Salmon (pieces)	200	197	129
do Shad do	224	nil	,,
do Herring (barrel)	211	130	,,
do Eels (pieces)	12,226	12,075	59,986
do Sardines (tinnets)	185	118	2
do Small fish (barrels)	604	658	95
do Fish for manure (barrels)	296	1,666	1,562

The eel fishery, however, has been exceedingly good this year at La Petit Riviere and St. Francois Xavier, but middling at Isle aux Coudres, and other places.

SAGUENAY DIVISION.

FERD. SAILLANT, *Overseer.*

The overseer reports a general failure in the net salmon fishery of this year, owing to a prevalence of contrary winds, which kept the fish outside. The stations at the headlands did best. The catch for 1872 was 3,257 fish, against 2,182 during the present season.

The following returns of the catch by anglers are given by Mr. Saillant : —

River St. Marguerite, N.W. Branch,	125 fish.
,, N.E. ,,	50 ,,
Anse St. Jean River,	39 ,,
River à Mars,	28 ,,
Bay Laval,	6 ,,

altogether, 248 fish against 192 last year and nearly 4,000 pounds of trout.

Little Saguenay River was not angled this season, but is reported well stocked with breeding fish.

Eternity River was well protected, and is reported to be in a fair way of becoming restocked.

A large increase of fish was noticed in Descente des Femmes River, no less than 70 or 80 fish having been counted in one day at its mouth, by the Overseer.

A mill dam across the River à Mars (Grand Bay), completed last season entirely obstructed the passage of salmon up this stream, although an opening was left in the side

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of the dam through which a quantity of water flowed down a gradual declivity amongst the rocks; but owing to the heavy fall of water over the crest of the dam the fish collected in great numbers near the foot of the apron, and kept jumping incessantly on to the glacis in vain and exhausting endeavors to surmount the obstacle. It was an accident much to be regretted, and could scarcely be compensated for by the satisfactory proof which the spectacle witnessed for several days, afforded of the complete restoration of that famous river to its accustomed celebrity as a salmon stream. There were probably 1,000 salmon at various places between the foot of this dam and the mouth of the river. Mr. Whitcher being present, made strenuous efforts to provide for the ascent of these fish; but it was extremely difficult, owing to a sudden freshet, to reduce the overflow sufficiently to attract the fish towards the entrance of the fishway below. At length by mining the rocks and constructing of timber a lengthened "lead" into the main stream, the desired object was accomplished and numbers of salmon ascended. Unfortunately, many wearied and wounded remained in the pools below, unable to re-ascend even by the easy passage which was finally provided.

Complaints having been made that Sir George Gore was destroying fish by unlawful means at the outlet of Lake St. John, in the Saguenay River, the local fishery overseer was despatched to that locality to make enquiries. He found that an illegal net had been used, and quantities of fish unlawfully caught and many of them wasted. The net was confiscated, and fine and costs imposed.

Mr. Hoxey, of New York State, and Mr. Gilchrist, of Port Hope, had built a large ice-house at Tadousac, and made extensive preparations to carry on fishing and buying of fish to export fresh to United States markets. They had provided themselves also with men and boats to catch speckled trout in the inland waters of the Saguenay country, also sea trout and salmon in tidal waters. Owing to the strong inducements which this new competition and the high prices offered to poachers and other lawless persons in that neighborhood, the Commissioner of Fisheries took the precaution to engage special guardians and constables belonging to the Water Police Force, at Quebec, for the purpose of preventing any serious depredations during the summer time and autumn.

GODBOUT DIVISION.

E. Pelletier, *Guardian.*

The yield of fisheries in this division is published in detail at Appendix B. The fishery laws were duly observed, and the guardian had no infractions to punish. Fish were everywhere abundant, the only want felt being that of easy modes of communication.

Salmon were plentiful, the yield is not however larger than that of last year, as nets were set too late. Halibut fishing was not carried on; the few fish so caught were taken in fishing for cod. This latter fishery was abundant, and a much larger quantity of fish might have been secured if the supply of salt had not failed. Mackerel were scarce, herring abundant, but not fished for. Thirty-nine barges were engaged fishing in this division.

The anglers at River Godbout took only 130 salmon this year, averaging twelve pounds. There were caught in this river with the fly in 1869, 515 fish; 1870, 399; 1871, 569; 1872, 275.

Godbout River and Bay are under lease to A. Gilmour, Esq., of Ottawa. The Bay fishing having not yet been utilized, as contemplated by the lease, the Department intends next season to re-open the closed netting stations.

MOISIE DIVISION.

F. Thivierge, *Overseer.*

Salmon fishing was good, although the fish went up very early. This early ascent was due to the prevalence of high winds during the beginning of June. Salmon fishing fishing outside was better than last year, and the fishermen would have done still better had not their nets been several times destroyed by stormy weather.

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Cod fishing was excellent. Fishermen succeeded better than last year, considering the short time they fished. They began about the 20th or 25th of June, and by the end of July some barges had caught as much as 280 drafts each. Almost nothing was done in August. Cod were plentiful during September, but fishing could be carried on only once or twice during the week, owing to stormy weather. Bait was abundant throughout the whole season.

Very few mackerel were caught; fish appeared only towards the latter part of July, and only ten barrels were secured with nets. No herring.

The overseer reports the river as full of breeding fish, and states that they evidently increase every year. He gives great praise for the care and attention bestowed upon this stream by the lessee (Mr. Holliday), and states that so soon as his nets are up he places two guardians on it until November, so that the place is safely guarded when the overseer has to visit other parts of his division, the proprietor finding it his interest to keep up a plentiful stock and let his young fish grow. The bulk of the salmon now caught average very heavy weights.

Angling in the river was good. The anglers caught 221 fish against 219 last season. Total weight 4,096 lbs.. Average 19¼ lbs. Largest fish 41 lbs.

Cod fishing at Seven Islands was not so good as last year; it however somewhat improved during the fall. The Acadians settled there who went seal hunting last spring did very little, having secured only 68 seals. Only 40 barrels of cod were caught. Owing to the want of salt, they secured only a small quantity of herring, which was sold fresh at Moisie.

Salmon fishing at Ste. Marguerite River was a failure, only 13 barrels having been caught. The overseer attributes this poor success to want of experience on the part of the licensees, and is satisfied that this river could yield a great deal more were it properly fished.

Cod fishing was not so good as usual, bait having failed.

At Point Jambou only five barrels of solmon were caught, owing to the station being improperly fished. Cod were abundant but not fished for. Same remark for herring.

At Pigou the yield of cod was about one.half less than that of last year. Bait frequently failed.

At River Au Bouleau four Indians fished for cod, and as bait was abundant, they caught 170 draft, per barge. For further details of the yield of fisheries in this division see Appendix B.

MINGAN DIVISION.

PHILIP VIBERT, *Overseer.*

Salmon net fishing in St. John's River proved good, and the lesses had reason to be wel satisfied with their catch. On the 14th of June 869 salmon, weighing 14,180 lbs. had been caught, against 200 at the same date last year. The total catch amounted to 4,391 salmon, weiging 59,489 lbs., against 4,020 in 1872. The largest fish weighed 36½ lbs. Sixty-three fish were killed with the fly, against 147 last year. Total weight 808 lbs. Average 12¾ lbs. Weather kept very warm during the greatest part of the time, which accounts for the comparatively small number of salmon caught.

Mingan River yielded only 35 barrels of salmon, against 44 last year, the nets having been set too late. His Excellency the Governor General angled in the river for about a week, and killed some thirty fish.

Magipe River gave 96 barrels of salmon, against 78 last season. For a better protection of the river it has become necessary to alter the position of one or two stands.

Only 6½ barrels were caught in the Jupitagan River, owing to injury caused to the nets by drift timber.

Romaine River was angled from the 6th to the 31st July, and yielded 67 salmon and six grilse. Largest fish weighed 30 lbs. Sport would have been double had the anglers been on the stream eight days earlier.

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Cod fishing did not prove so remunerative as last season, in fact very few fish were taken up to 20th June. Bait was scarce at St. John during part of July, and boats had to go as far as Sand Point in search of bait. It did not much improve later in the fall.

Detailed statistics of the yield of fisheries in this division will be found at Appendix B.

NATASHQUAN DIVISION.

G. MATHURIN, *Overseer.*

Full details of the yield of fisheries in this division will be found in Dr. Lavoie's Report at Appendix B.

Salmon fishing was much under the catch of 1872, not because of any scarcity of fish, but for reasons which are stated in the above named report. The total yield of salmon fishing in this division amounted to 302 barrels, besides 113,737 lbs. preserved fresh at Natashquan River. Three hundred and sixty-nine fish were caught with the fly in that stream weighing from 10 to 20 lbs. Only three salmon were killed by sportsmen in the Washeecootai, of a total weight of 40 lbs. Anglers report the water as having kept too low.

WATSHEESHOO DIVISION.

P. GENDREAU, *Overseer.*

Salmon fishery yielded 52 barrels, against 29 in 1872, and 20 in 1871. Seal fishing was much better than last year, 809 seals having been killed.

Watsheeshoo River was not angled this season. No violations of the law occurred, poachers being evidently frightened by the exemplary punishment inflicted last year. For detailed statistics of the yield of fisheries in this division see Appendix B.

POCACHOO DIVISION.

JEAN LEGOUVE, *Guardian.*

This division, which comprises from Wapittipi to Ste. Augustine River, has an extent of sea coast of some 120 miles.

A general improvement was noticeable in the salmon, cod and seal fisheries. Herring and mackerel fishing totally failed. For detailed statistics see Appendix B.

BONNE ESPERANCE DIVISION.

W. H. WHITELY, *Guardian.*

The salmon fishing, owing to heavy ice, was only an average one. Fishermen also complained of bad weather. A large quantity of fish went up St. Paul's River.

Cod fishing was middling; the seine fishermen do better than those using the hook. Bait was plentiful. Cod sold at $3.40 in trade and $3.00 in cash, and was in great demand.

Herring were more plentiful than of late years, but owing to the lateness of the season, people were engaged drying their cod and could not spend time to engage in herring fishing. No mackerel were seen. About 100 vessels visited this division during the season, mostly from Nova Scotia; they all secured good fares.

This part of the coast is reported very favorably.

A detailed statement of the yield of this division will be found at Appendix B.

ANTICOSTI DIVISION.

Full details on the yield of the fisheries of this division will be found in Dr. Lavoie's Report, Appendix B. The suggestion made by the above named officer of placing a guardian during the salmon fishing and spawning seasons, on each side of the island, was carried out, and with the best results so far as protection is concerned.

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MAGDALEN ISLANDS DIVISION.

J. J. Fox, *Overseer.*

Seal hunting on the ice began on the 13th March, and vast numbers were seen on the north-west side of the islands from East to West Capes, but owing to continuous winds the ice kept off shore, and they were unable to pursue them. The total catch was only 1,100 seals. Sealing vessels left House Harbor on the 27th March, but adverse winds prevented them from entering the ice, and the result of this fishery was not very favorable; still it is better than last season. The number of vessels fitted out for this fishery is seventeen, and the number of seals captured 4,410, against 1,611 for last season. Two new schooners were built and launched for this fishery during the present year. Seal fishing with nets was carried on at Coffin, Allright, Grindstone and Amherst Islands, with very little success, only 324 seals being captured. In my opinion this fishery will always be uncertain as the seals follow the schools of herrings, whose appearance on shore are mainly governed by wind and ice.

Only one foreign vessel was engaged in the spring herring fishery during the past season, there being no demand for this fish either in the British or Foreign markets. Herring struck on the 29th April; they spawned on 18th May, and disappeared on the 26th following.

Spring mackerel fishing began on the 5th and ended on the 18th June, with better results than for many years past. On the 9th and 10th the fish struck in such abundance that the nets set in Pleasant Bay were sunk to the bottom; fishermen were consequently unable to clear them while the fish were fresh. Hundreds of barrels rotted at the bottom. One man had forty nets sunk which he could not raise until the fish had decayed. Seven vessels from Nova Scotia were engaged in this fishery. The quantity taken amounts to:—

1,740 brls. by strangers in vessels.
1,209 do inhabitants in boats.

Total 2,949 brls. compared with 2,205 barrels last year.

The summer mackerel fishery was very successful; the quantity taken by the inhabitants on the inshore fisheries being 2,548 barrels, compared with 529 last year. Nearly 200 American sails were at the Islands at one time, but very few fished in Pleasant Bay; several of them procured supplies here with wood and water, and expressed much satisfaction at the settlement of the Fishery question. Mackerel of fine quality were abundant in the Gulf throughout the season.

Summer cod fishing has not on the whole been so successful as last year; vessels have done better, but the boat fishing has not been so good. Bait was at all times abundant, but the winds and weather kept very unfavorable for boat fishing. The catch amounts to:—

8,230 cwts. by vessels,
7,499 „ „ boats.

Total 15,729 cwts. against 18,859 cwts. in 1872.

Very few trawls were set near the islands this year, the off shore bankers all using the hand lines.

The fall cod fishery was not so good as that of last year, owing to a prevalence of boisterous weather which hindered fishermen from going to the fishing grounds. Catch: 1,319 cwts. against 2,072 last season. Halibut were very scarce.

A decline is noticed in the produce of fish oil; fishermen have been complaining for some years that cod fish are poorer and do not yield as much oil as formerly.

The value of fish and oil exported from the Magdalen Islands during the season amounted to $50,000.

No violations of the law and no disturbances occurred amongst the fishermen. All agree in expressing their unbounded gratitude to the Department of Marine and Fisheries for the care and forethought evinced on their behalf in the erection of new lighthouses

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and the placing of buoys, which render navigation in the Gulf of St. Lawrence so much safer and easier than formerly.

ST. FRANCIS DIVISION.

W. C. WILLIS, *Overseer.*

Fishing in this division being carried on solely by settlers residing near the different lakes or rivers, and the fish being mostly used for local consumption, it is nearly impossible to give a correct statement of the catch, but the results of protection have so far proved excellent. The local markets were amply supplied with fine fish during the summer, and large quantities were sent over to the States, where higher prices could be obtained.

Fishing in Magog river was very good. A new mill dam which has been constructed on this river, somewhat interferes with the ascent of fish. The overseer has caused a fishway to be constructed thereon.

Salmon fishing in the St. Francis river was very satisfactory, some fifty fish of a large size having been caught, two of about thirty pounds weight. The local fishery guardian at Drummondville reports that the fish went up in unheard of numbers. Most of them ascended between 27th July and 1st August.

No violations of the fishery laws were reported during the season.

Mr. Willis estimates the quantity of fish caught in this division at over 200 barrels, which, at from eight to twelve and a half cents per pound, would give a total value of about $4,000.

MAGOG DIVISION.

W. H. AUSTIN, *Overseer.*

Last year's report contained the following note:—"Owing undoubtedly to this overseer's imperfect knowledge of his duties, this division is in great danger of losing the benefits derived from the active and intelligent guardianship of his predecessor, Mr. C. F. Copp. Complaints of illegal fishing, which Mr. Austin seems either unable to detect or unwilling to stop, are constantly reported to the Department." The same complaints having been renewed in 1873, the Department considered it necessary to send two special guardians on the spot during the close season for trout. They succeeded in checking illegal netting and spearing, and effectually put a stop to unlawful operations. They confiscated no less than nine seines and nets, besides three boats and other fishing gear belonging to the following parties:—W. Delaney, E. Clifford, Geo. Redikan, J. S, Kemp, Jos. Menard, D. W. Austin, W. Henderson, W. Blaicklock, J. McEwen, Geo. Gear, R. Gibson, A. McPherson, Jno, Taylor, W. McPherson, T. Rawlinson, and two others, names unknown. These seizures abundantly prove the Overseer's inefficiency and neglect of duty, and require the Department to dispense with his services.

The estimated value of fishing nets and boats used on Lake Memphremagog is $582, and the quantity of fish caught is about 300 brls., consisting chiefly of trout ("lunge"), herring, eels and pickerel.

RICHELIEU DIVSION.

H. W. AUSTIN, *Overseer.*

The following return is furnished by Mr. Austin:—

District of Richelieu.

Value of fishing boats	$ 14,250
Eels and eel weirs, value	6,000
Fresh fish, 7,690; salted, 1,500 bls.—Value	45,930

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District of Three Rivers.

Value of fishing boats	6,500
Shad, 40,000; Eels, 30,000; Sturgeon 300 brls.; White fish, 800 doz.; other fish, 6,000 brls.—Value	30,150
Tommy Cod, 20,000 bushels	10,000

District of Montreal.

Value of fishing boats	4,000
Mixed fish, 2,500 brls.—Value	15,000
Eels, 50,000, @ $10	5,000

District of Beauharnois.

Value of fishing boats	1,500
Mixed fish, 1,250 brls.—Value	7,250
Total value of fisheries for the whole division	$119,350

Mr. Austin reports fishing in his division to have been good, and the fishermen express themselves satisfied with the result of their labors. He considers it advisable that white fish should be allowed to be caught in Lake St. Peter before the first of December; the present close-time pressing hard on the inhabitants and is unproductive of any beneficial result.

MISSISQUOI DIVISION.

P. E. Luke, *Overseer.*

This overseer gives the following return of the yield and value of fisheries in his division:—

Numbers of Shad, 1,811, sold fresh at from 10 to 12 cents each. Small fish, 207 barrels, which sold at from $7 to $9 per barrel. Total value of above fisheries, about $1,800. Shad fishing was about one-third less than last year.

BROME DIVISION.

Amos A. Mooney, *Overseer.*

Mr. Mooney supplies the following figures of the value of fish and fishing material in his division:—

Value of fishing boats	$810
„ Eel Weirs	275
Salmon, 7 fish @ $1	7
Herring, 20 barrels @ $10	200
Eels, 1,900 @ 25c each	475
Pickerel, 60 barrels @ $10	600
Salmon Trout, 47 barrels @ $25	1,175
Small fish, 10 barrels @ $5	50
Total	$3,592

Most of these fish are used for local consumption.

CHATEAUGUAY DIVISION.

W. Clyde, *Overseer.*

This officer was appointed to replace D. McFarlane, deceased. According to his own report "there is no fishing of any account carried on in this division, except for a few hours' pleasure by the inhabitants."

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DISTRICTS OF TERREBONNE, MONTCALM, JOLIETTE AND BERTHIER.

JOSEPH L. LORANGER, *Overseer.*

No satisfactory report received from this officer. He merely states that four new ice-houses were built by Canadian fishermen during the season at Lake Ouareau and Assomption River. Angling for trout was carried on only during the month of June, and no more than 700 lbs. exported altogether to Saratoga, whilst no less than 400 lbs. were sold *weekly* last year. Being unable to dispose of their fish, the parties engaged were compelled to give up their operations. No reason is assigned by the overseer for this change, except that fewer strangers than usual visited Saratoga during the summer season, and that hotel keepers did not require such a quantity of trout in consequence; but this Department is credibly informed that large quantities of speckled trout are constantly sent to New York and Boston fish-dealers from the lakes in rear of L'Assomption and Terrebonne, which are unfit for food, having evidently been caught during the spawning season. This is evidently the real cause of depression on the American market, and will ultimately lead to our speckled trout being in disrepute, should not active fishery guardians, taking an interest in the protection of fish, be chosen for these waters.

Mr. Loranger states that the fishery laws were duly observed, and that no foreigners fished in the inland lakes in rear of Terrebonne and Berthier.

OTTAWA COUNTY DIVISION.

W. L. HOLLAND, *Overseer.*

This overseer reports as follows:—

"I find an increase of fish in all parts of Ottawa County, and the people inform me that it is the result of the protection which has been exercised by the Department over the lakes of this district. They complain, however, that the lumbermen injure the fisheries by erecting dams at the outlets of lakes, thus preventing the fish from reaching their spawning beds. In places where these dams have been constructed, the yield of fish has decreased, and the residents in such localities complain of the fact. The system of protection to the fisheries has proved so advantageous to the fishermen that many of them who formerly fished all through the close season, and only complied with the provisions of the law under compulsion, now recognize the wisdom of the Department in this matter, and aid the overseer in protecting the fish.

"I would recommend that the close season for speckled trout on the lakes, commence on the first of October and continue until the first of May, in each year, and that this order be enforced on all lakes within a distance of thirty miles from the Ottawa River; that dams erected by lumbermen at the outlets of lakes be so constructed that the fish may have access to the upper waters, and when erected, that they do not raise the water to more than the usual high, spring level. This practice of the lumbermen, I find, is very injurious to the fisheries of this County."

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APPENDIX H.

REPORT OF SAMUEL WILMOT, ESQ., ON FISH CULTURE, AND TRANSACTIONS OF THE FISH-BREEDING ESTABLISHMENT AT NEWCASTLE, ONTARIO, DURING THE SEASON OF 1873.

To the Honorable A. J. SMITH,
Minister of Marine and Fisheries, &c., Ottawa.

SIR,—In submitting my report in relation to operations in fish culture for the present year, I shall be as brief as possible, as many of the more interesting subjects in connection with the science of pisciculture have already been referred to, in my former reports.

When we consider the importance of this new branch of industry, both as a means of producing cheap and wholesome food, as well as individual and general wealth to the people among whom it has been introduced; it is gratifying to find that a knowledge of its principles is gradually becoming more and more widely diffused, so that we may safely look forward to the time when no country can be found, wherein the science of pisciculture is totally neglected.

Independent of the pleasure and instruction which fish culture on a small scale has afforded to amateurs, and others who have employed their time and means in adding another luxury to their tables, much profit has been realized by utilizing springs and small streams of water on private properties. And in both the old and the new world, we may see that various governments have chosen the most scientific and practical men of the day to find means whereby the vast areas of water, which cover three-fourths of the earth's surface, may be made to produce inexhaustible supplies of food and riches; so that through man's intelligence and industry, *Aquiculture* may become the successful rival of its sister art *Agriculture*.

The introducing and acclimatising of many of the better and scarcer kinds of fish, from one country to another, has been lately achieved through the instrumentality of this new agent. It is now an indisputable fact that some of the kinds of fish that were transported, in the egg state, from Scotland to Australia and New Zealand, are found to be acclimatised to the waters of the Southern Hemisphere, where they were hitherto wholly unknown.

In a similar manner, fish fry and eggs from the waters of the Atlantic coast have been successfully carried by the overland route across the continent, and planted in those of the Pacific coast, of which they were not previously natives. In our own country we have introduced certain hitherto unknown British fishes. These few efforts, successful in their application, are only the forerunners of what will yet be largely brought about through the study of practical fish culture. And no doubt, when the science is still more generally diffused, and a practical application of it made by the people, importation and exportation of the more valuable kinds of fish will form a traffic between countries whose interest may require an improvement in that branch of commerce.

France has always taken a very great interest in the artificial production of fish, as an easy means of producing cheap food for her people. The immense grounds which were laid out, and buildings which were erected at Huningue, are strong and convincing evidences of this fact; and although, by the fate of war, the Province of Alsace, in which the large French pisciculturel works were established, was ceded to Prussia, she has since that period commenced again the founding of another fish-breeding establishment in

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another portion of her territory. It is contemplated that this latter one will be built upon more improved and extended methods, for artificial propagation of all kinds of fish, than the former one.

Nothing, however, can be touched upon as giving a stronger impetus to fish-culture, at the present time, than the hearty and zealous manner in which the local Legislatures of many of the neighboring states, as well as the Federal Government of America, have entered into the work of encouraging the growth and improvement of the piscine wealth within their territories. Not only have large grants been made by individual states to aid their Fishery Commissioners in re-stocking and replenishing depleted waters, but, during last year, the Federal Government at Washington made a liberal grant to assist in what has been considered a great national work.

To Professor Baird of the Smithsonian Institute, (who, from his high scientific and practical attainments, as a thoroughly versed naturalist, was perhaps fitted better for the work than any other) was entrusted the distribution of this fund for the promotion and furtherance of all such matters as would tend to improve the fishery interests of the United States.

As a result from the united efforts of the State Legislatures and Congress, a very large and commodious salmon breeding establishment has been built on the Penobscot River, in Maine, under the superintendence of Dr. Atkins, formerly a Fishery Commissioner for that State, which establishment, during the past year, is reported to have answered the purposes for which it was built, in a very satisfactory manner, and quite equal to the most sanguine expectations of its projectors. Several hundreds of thousands of salmon ova have been distributed from it, throughout various States of the Union. Over and above this public recognition, upwards of two millions of dollars are now employed in the work of fish culture from private sources, by the people of that country.

It may be safely said that within the same period of time, in no country has fish culture made greater progress than in the Dominion of Canada. From its first inception at Newcastle, Ontario, it has made rapid strides throughout America. Its operations there have ensured the artificial propogation of the more important commercial fishes of the country, and at the present time, through the wisdom of the Government, and the laudable efforts of your Department, there have been no less than four salmon-breeding establishments founded in Canada, three of which are in practical operation, and the fourth under process of construction, viz., the Newcastle establishment in Ontario, that on the Miramichi River in New Brunswick, and the other on the Restigouche in Quebec. The unfinished one is situate at Gaspé Basin. Applications have been made also from other parts of the Dominion for the erection of similar establishments, and several localities have been visited with a view of carrying out these demands, and, no doubt, so soon as the necessary means can be obtained, and circumstances will permit, the work of construction will be commenced. Important rivers in the Provinces of Quebec and New Brunswick having been inspected under instructions from your Department, it may be requisite that I should refer to them, so that if fish-breeding establishments are intended to be built upon those rivers, provision may be made in the way of money grants for their construction.

As fish-culture has now become both a popular and successful industry in Canada, it is of importance that it should be vigorously carried on. The once famous Saguenay, now very much reduced in its supply of salmon, and the river St. John in New Brunswick, with its innumerable tributaries; both demand early attention, in order to prevent the final extermination of an article of food, which it is now almost impossible to sustain in the natural way alone. A judicious application of the artificial system, together with thorough protection during the close seasons would soon reproduce in those rivers, a large supply of fish both for domestic purposes and foreign trade. Frequent accounts also have been received from the Provinces of Nova Scotia and Prince Edward Island, of the falling off of the former abundant supplies of salmon in the rivers there; it may not therefore be improbable that means will have to be speedily taken to increase and multiply that article of commerce in those provinces, and that a systematic process, both by the

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natural and artificial methods of propagating fish, will have to be resorted to. The outlay required to achieve this object will be found to be trifling indeed, in comparison to the ultimate benefits that would assuredly flow from its application.

Having treated upon the question of fish culture in a general way, it will not be amiss to make a few remarks upon the necessity of legislation for the protection and preservation of fish at certain seasons of the year, and also upon the application of the artificial methods of producing them.

Although these subjects are being brought before the public more prominently than heretofore, they are nevertheless little thought of, and much less understood. I therefore desire to touch upon them more particularly, trusting that by giving a practical illustration of the habits of salmon during their spawning season, and by showing the great loss that befall the eggs in the natural way of laying them, with an explanation of the artificial method adopted to prevent the loss, the contrast will be so much in favour of the latter, as to produce in the minds of the people a strong conviction in favour of its general application.

This detailed statement and information, if embodied in the annual Departmental report, will, in all probability, be read by many of the fishery officers throughout the Dominion, and I trust it will be the means of aiding them in forming a more intelligent idea of the great object of the work in which they are engaged, by guarding the rivers and streams against infractions of the fishery laws during close seasons, and will also impart to them some knowledge of the improvement sought to be introduced by the application of the artificial method of rearing fish.

Many persons are very sceptical as to the actual necessity for close seasons or any other protection for fish, and consider legislation on the subject altogether superfluous. They know nothing of their habits or nature, beyond the fact that they form delicious food, and cannot therefore see why they should not be taken and eaten at all times, and in all seasons. And by many, the question is frequently asked, "Why resort to artificial means for the propagation of fish? Why not allow them to produce their young in the usual way?"

First then, we will endeavor to show why the fish should be protected by stringent legislation during the close or spawning season, at which time indeed, they are, as it were, far advanced in pregnancy, sluggish, dull and altogether unfit for food; and in order that this question may be clearly understood, we must enter somewhat into detail, as to their nature and habits. Most tribes of fish are nearly alike in their manner of depositing their eggs, it will be therefore sufficient to take one species of the salmonidae tribe (or higher order of fishes of which the *salmon* is the type) as an example.

This king of fishes was formerly abundant in the streams of Lake Ontario, and is now plentiful in some of the rivers of the Maritime Provinces. As already stated in previous reports, it resorts to different localities at various periods of the year for certain specific purposes. Salmon resort to their feeding grounds (in the sea) during the winter and early spring months, where they prey largely upon small fish, crustacea and molluscs.

Independent of gratifying their appetites, which from the prostrating effects of spawning, as well as a fast of several months during their migrations up rivers, they have now become very voracious. Instinct seems to teach them, that they must gorge themselves rapidly, and put on fat quickly in order to sustain themselves in another annual round. Not only is the large quantity of fat they so rapidly acquire needed for the purpose just mentioned, but also for the growth and development of the thousands of eggs contained in their bodies. Whilst upon their feeding grounds, the ovaries are as yet very much contracted and the eggs almost imperceptible.

As they commence their migration up the rivers to fresh water, they cease taking food, and a process of absorption begins, whereby the fatty substance of the body is conveyed to the ovaries, and the eggs become daily larger in size until the end of the migratory tour, generally in October and November. By this time the ova will have become full-grown and mature for laying, and upon examination it will be found that the flesh, from the rich red salmon color, has changed to a flabby white, without any fatness what-

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ever, and has become tasteless, and quite unfit for food. The silvery appearance of the fish when first entering the river, has also become changed to a dusky brown color, and frequently covered with wounds and sores, caused by the difficulties and obstructions met with in ascending the rivers to the spawning grounds. On the other hand, the ovaries by this time have become enlarged, and the eggs (thousands in number), of the size of a small pea, are filled with an albuminous substance, in which are found floating numerous small oily globules; this is the fatty substance of the fish, which, by the process of absorption above mentioned, has been conveyed through the covering membranes and small tissues to the eggs, the ova now ripens and becomes separated from the membranes, and, by a strong muscular action of the female upon the spawning bed, are rejected from the vent upon the beds formed by the fish in the gravelly bottom of the stream. Precisely the same change and action is going on with the male from the commencement of his migration, with this exception—that instead of eggs, the male produces a soft milk-like roe called "milt," which, when ripe, forms a creamy fluid, and is ejected in like manner from the vent, and, coming in contact with the egg of the female in the act of depositing, causes impregnation.

From the effects of their long journey, and from eating nothing since leaving the sea, the salmon get very lean and emaciated, and at last become perfectly exhausted; parasites begin to prey upon them, a fungoid growth sets in, and great numbers die. Those that escape this death and are not otherwise destroyed, again retrace their journey to the feeding-grounds in the sea.

Mankind, from his overweening selfishness, is not satisfied with killing these fish in the earlier seasons, when they are fat and wholesome and well adapted for food and commerce, but would (were it not for an interposition of some kind) relentlessly pursue, and kill them up to the close of the year, whilst in the very act of spawning, and in the foul condition just related. It must also be remembered that at this time, salmon, from their sluggishness, and from having resorted to the smaller tributary streams on the shallow gravelly beds, become more easy prey for their lawless pursuers, who, caring nothing for nature's command to increase and multiply, nor object to foul and unwholesome food, kill indiscriminately, with every sort of device, every fish that may be found. This barbarous practice, having hitherto generally prevailed, has in numerous instances totally exterminated many of the better kinds of fish from most of the waters of the older settled parts of this country.

From the few facts above mentioned respecting the nature of salmon, and the tendency in man to destroy them, it is easy for any person possessing ordinary intelligence and not selfishly prejudiced to the contrary, to infer how necessary and important it is that this and other fish should be protected by law at certain seasons, and also that all persons should be legally prohibited from killing or selling that which is foul and unfit for food.

Having explained the actual necessity for passing laws in relation to fish, it will be necessary now to meet the question, "Why not allow them to produce in the natural way? Why resort to artificial propagation?"

The artificial propagation of fish has been carried on only a short time in this Dominion, and is therefore, to a certain extent, a new subject, and will likewise require a considerable amount of detail to explain its workings. In contrasting the artificial with the natural method, the superiority of the former over the latter system will be easily understood even by the great mass of the people, who are, as yet, wholly uninformed as to the novel science of artificial fish-culture just inaugurated in Canada.

It has been advanced by Goldsmith and other naturalists of an early period, and upheld by eminent writers of modern times, that not more than one per cent of the ova laid in the natural way ever produce a living fish. But in the present day it is possible, by artificial propagation, to rear from 80 to 90 living fish from every hundred eggs, which large increase is greatly needed for re-stocking the waters of the country with fish of such various kinds as may be required in different places, and for supplying in part the increasing demand in the markets of the country for fish food.

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As we have chosen to illustrate the necessity for legal enactments for the protection of fish, by means of the salmon, we shall continue to take the same fish for an example, while we explain the *modus operandi* of laying down and hatching out of the fish-spawn in the natural way, and relate the many difficulties which beset the eggs at the time of their deposit by the parent fish, through the process of incubation, and until they are hatched out in the river or other water. It may be observed that these operations are performed at different times and places by the various kinds of fish.

Salmon, after leaving their feeding-grounds, will, after the somewhat lengthened migration, previously described, reach their spawning grounds far up river, or in some instances, if very late in the season, near at hand above tideway. A suitable gravelly-bottomed, rapid part of the stream is selected, where the female fish commences by writhing movements of her body to displace the stones and gravel in order to form the bed in which she may lay her eggs.

In this work she is very much aided by the swift current of the water, which helps to move the gravel down stream, whilst being displaced by the exertion of the fish. In this way a hollow spot is dug out, and a small hillock of stones is formed just below. In this scooped-out bed, the fish, by contortions and strong muscular action of the body, ejects a portion of the mature ova, many of which sink to the bottom, amongst the gravel, whilst numbers are carried below and beyond the bed by the current. The little ledge of gravel just above the bed is again disturbed, and the stones in the act of falling are, by the action of the fish, assisted by the swift water, carried down over the eggs, thus partially covering them and hiding many of them from sight, and also from their numerous enemies.

This operation of spawning will take from two to three days to a week, and sometimes longer, depending much upon the lateness of the season, and also, the flow of water in the river at the time. Should the season be dry, and the streams low in water, the fish will rest in the deep pools, waiting for the water to rise on the rapids, that they may be enabled to get upon the shallows to form their beds.

All this time the eggs are maturing, and at last, late in the season, and unable to retain the ova within their bodies any longer, they will rush up at the first freshet, and in some instances lay the whole of their eggs in one or two nights.

During the time in which the female is engaged in depositing her eggs she will generally be accompanied by the male fish, who performs very little, if any, of the labour in forming a bed, he is constantly hovering about just below the female, and when she is in the act of laying her eggs, he will run alongside, and by a rapid muscular movement of the body, ejects some of his milt which, if perchance it touches the egg, impregnates it.

It does not necessarily follow that the female shall be accompanied by the male in the act of spawning, for often it is found that she will lay her eggs without the presence of a male fish. It frequently happens that whilst she may be deeply engaged in her work, several male fish will be fighting together to gain the superiority of place. Whilst thus engaged, the female, bent upon her work, is depositing her ova without the vivifying fluid coming in contact with them. Whilst this operation of laying the ova is going on, the bed is generally surrounded by various kinds of small predacious fish, watching every opportunity to prey upon the eggs as they flow from the female, or, as they settle in the bed, or drift beyond it.

Trout cause great havoc in this way, nor is this fondness for the eggs to be laid to the trout alone, for young salmon (parrs), chubs, eels, and almost every other kind of small fish are lying in wait to perform the same act of destruction upon the ova: it is a mere matter of mastery which shall get the lion's share.

Those of the eggs which shall have escaped these perils, together with those that have received the fecundating fluid, will be found embedded in the gravel, where they remain (should they escape all other dangers) during a period of five or six months of the coldest season of the year, namely, from October and November till the following April and May. Various kinds of insects, water-bugs, and innumerable acquatic animals (whose nature is to lie hidden underneath the stones and gravel at the bottom of streams),

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whilst groping about for food, come upon these salmon beds, and perforating the soft filmy covering of the egg with their needle-like teeth and sharp claws, destroy vast numbers of them.

Add to this, that a great many are lost by decay, for all those which have not received the vitalizing milt die, and becoming putrid, there grows upon them a species of fungus, which, spreading its grasping web, catches in its poisonous folds any adjoining eggs, killing them at once. This insidious growth works great destruction to the semi-incubated ova. Clusters of a hundred and more are thus sometimes found in the crevices of the larger gravel in a putrid mass. This greatest scourge of the ova is very difficult to overcome even in the purest water, and where the closest attention is given to prevent its growth. Another great loss of the ova takes place during the long and inclement winter months from the presence of anchor ice, which, in shallow parts of rivers and streams, prevails to such an extent as to become one solid mass, in many instances forcing the stream out of the channel in which it flowed during the autumn. The eggs, by this means, having lost their covering of water, become frozen and die. Great destruction is also caused by the shifting and shoving of ice from the effects of heavy freshets. Whole sections of the stream where salmon beds had been made are sometimes swept away, and become so changed as to leave no vestige of their original formation.

The remnant of the eggs which may have escaped destruction from the above-mentioned sources will, in April and May, hatch out and become young fry. At this time they are helpless in the extreme, lying prone on their sides, with a large bag or umbilical sac attached to their bodies. In this stage of their existence they remain about five or six weeks, until, by a process of absorption, brought about by the increased warmth of the water, in spring the sac hitherto attached to the body disappears, and the little fish, now symmetrically formed, begin to roam about in a lively manner in search of food. From the period of emerging from the shell up to the present time, they are still an easy prey for their numerous enemies.

The difficulties above-enumerated, which beset the egg from the time when it is laid, up to the period of its hatching out into a young fish, though somewhat numerous, are by no means all that it has to encounter. There is to be added the destruction by aquatic birds, polluted water, deleterious substances of various kinds which are constantly thrown into the streams from manufacturing establishments, sawdust and rubbish from saw-mills, washings from barn-yards and turnpike roads, natural and artificial manures and other foreign substances used upon the soil in farming, draining, &c. All flowing more or less at times into the streams, and settling upon these beds, so pollute the water, and otherwise injuriously affect them, as to cause immense losses to fish eggs, and also to the newly-hatched-out, and as yet undeveloped and very delicate fry.

Of the eggs thus deposited, scarcely one in a hundred ever produces a living fish. Yet withal, fish are so prolific in their nature that there would still be enough for supplying the waters in abundance, and also a sufficiency to relieve a considerable portion of mankind, were it not for the ruthless and barbarous manner in which they are killed by man, irrespective, too, of the seasons in which they are foul and unclean for food, and of the time also in which they are in the act of laying their eggs for reproducing their young.

Having now shown the manner in which the ova are laid by the parent fish in the natural way, and having described the numerous sources from which great destruction results to the egg by that system, it will be necessary to fully explain the method adopted by the artificial mode of propagating fish.

As soon as the parent fish have approached their spawning grounds in the river or other stream, and the ova and milt have become mature, the eggs are taken from the female by the manipulator in as gentle and careful a manner as possible. There are three methods practised in securing the adult fish, male and female, for this purpose,—one is to catch them by means of nets, whilst they are upon the shallows, and if found ripe at the time, to then and there carefully extrude the ova and milt from them. This will be found a difficult procedure, both in the netting of the fish, and also in the uncertainty of afterwards finding them perfectly ripe for manipulation, and should not be adopted

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unless it is impossible to procure them by other means. Another plan is to catch such numbers of the adult fish as may be required at the time of their migration up the rivers during the autumn months, by means of small meshed nets, and carefully put them into properly constructed scows, in which they may be conveyed to ponds or enclosures, and there securely kept until they become mature for laying their eggs. These ponds or enclosures should have a constant flow of pure water through them, otherwise the fish will not do well, more particularly if they are to be kept in them any length of time, and because it is found that too close confinement does not appear to be suited to their nature. The places for keeping fish in, should always be close at hand to the breeding-house. This system is practiced in our Maritime Provinces and also at the American Fish-breeding establishment on the Penobscot River, in Maine. The other method, which, from the beginning, has been used at the Newcastle establishment in Ontario, is by erecting a reception-house alongside the stream, through which a sufficient body of water is allowed to pass, into which the parent fish, on their journey up stream, are enticed to enter, through peculiarly-formed traps, from whence they cannot return or escape.

This building is divided into several compartments, through all of which the current of the stream runs freely, being regulated by gates at the upper end of the house. The different sexes are placed in separate pens so that they may be the more easily noticed and selected for manipulating purposes. Here, then, they are permitted to remain unmolested until the ova and milt become perfectly mature and will flow almost of its own accord from the fish. Close observation will denote this, so that no loss of eggs whatever need take place. This system has been adopted wholly at Newcastle, and has been most satisfactory in its application and results.

After securing the fish by either of the above described methods, and they are found to be ripe for laying their eggs and milt, a female is first taken by catching her with the hand just above the tail, and with a quick, sudden motion she is lifted out of the water, a piece of cotton or other cloth is wrapped about her body to hold her more readily, she is then placed over a tin pan or other vessel, and the eggs are gently extruded from the vent by a slight pressure of the hand lengthwise along the abdomen. In a minute or two all the ova will have been expressed from the fish into the vessel; she is then put into the water again without having received any injury. A male fish is then taken and the same operation is performed, and the milt or semen which is taken from him is mixed with the eggs in the pan, by gently stirring together with the hand, or by a tremulous shake of the vessel. By this means every egg will have come in contact with the fecundating fluid of the male, and, unless from some natural defect, either in the egg or the milt, all of the ova will become impregnated, all adhering together as if with some glutinous substance. The pan or vessel containing the eggs is then carefully laid aside for some twenty minutes, or until the ova become separated. They should then be washed clean by pouring on pure water till the whole of the milky fluid disappears; they are then measured out by means of a little measure, made to contain a certain number, and put upon the breeding trays in single layers. This being done, the trays containing the eggs are placed in small troughs (about half an inch up from the bottom) through which a constant flow of water from the creek or river is made to run. In these hatching-troughs the eggs are allowed to remain during the whole period of their incubation, namely: from October and November, till the following April and May. During this time they are closely watched, and should any of the ova, from the want of impregnation or from any other cause, become bad, they will turn an opaque white color, and when thus noticed they are removed by means of a pair of forceps or other instrument adapted for the purpose. Should they be left too long, they will become putrid and a fungus will begin to grow upon them, which would seriously affect and destroy the adjoining eggs. Should any sediment or other deleterious substance settle upon the eggs during the time of hatching, it is washed off by sprinkling water upon them by means of an ordinary gardener's watering can. By this means they can be kept as clean and free from filth of every kind as when first taken from the parent fish. No frost is allowed to penetrate the building, and the flow of water is regulated by

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means of taps leading into each of the series of troughs which run through the whole length of the hatching-room. At the entrance of each trough, perforated zinc screens are placed to prevent the possibility of small fish entering them. In this thoroughly protected state, the ova are kept until the young fish emerge from the shell in April or May, after which time also, and until the umbilical sac is wholly absorbed, they are carefully watched and protected.

In May and June the fry will have become beautifully developed, active little fish, and should be turned into the rivers and streams that are required to be replenished and re-stocked, or, at this time, they may be placed in ponds of pure, living water and regularly fed until they become *parrs*, and afterwards *smolts*. At this latter stage they make their first migration to the sea, where they become *grilse*, and afterwards adult *salmon*.

The *modus operandi* pursued in the artificial impregnation of fish-eggs, and the rearing of fry being somewhat minutely described as above, it only remains now to draw a contrast between the two methods of natural and artificial propagation of fish. In the latter there will be no possibility of losing either the egg or the milt by being swept out of the pan or artificial bed in which they were placed by hand, as would be the case when laid by the parent fish in the rapid waters of rivers and streams. In the one case a few moments will suffice to relieve the fish of the whole burden of eggs which she carries in her body; in the other, days and weeks are engaged in the prostrating effects of depositing the eggs.

It will appear equally clear that every egg deposited in the pan or vessel must necessarily come in contact with the vitalizing fluid of the male and become impregnated, whilst great numbers that are laid in the streams by the female fish, without the presence of the male, are wholly lost. Neither will there be found in the artificial beds hordes of predacious fish, waiting eagerly to devour the eggs as they are dropped; nor will trout, parrs, chub and eels be found there, seeking which may get the lion's share—and aquatic birds cannot gratify their appetising desires for fish-eggs within the precincts of the breeding room. Again, the ova are not subjected to injuries of bruising and crushing from stones and gravel falling upon them in the act of being laid in the rough bottoms of streams. This danger is avoided in the artificial breeding beds, where neither stones nor gravel are used or permitted, the eggs being spread upon smooth, perforated zinc or glass trays in single layers, and not in clusters.

During the six months in which the eggs are undergoing the process of hatching, no insects, water-beetles, bugs or aquatic animals constantly on the alert for food in the gravel beds of rivers can possibly attack or perforate the fish-eggs in their snug and well-protected beds in the artificial breeding-room. Clusters of dead ova, spreading their insidious fungoid growth to every adjoining egg are not permitted here, for when the egg presents the white opaque color of death it is immediately picked out and cast away by the overseer in charge, and all fungoid growth thereby stopped. The baneful effects of all kinds of sediment and of deleterious substances from mills, manufactories, manures, &c., are all regularly and systematically cleansed from the eggs when found resting upon them; neither anchor ice, nor ice floes, nor freshets, destroy or sweep them away when thus cared for. Here, from the protection and fostering care afforded them, a vastly superior number of eggs produce living fish. Well may it be said, that, "from the cradle to the grave, the salmon has but one constant succession of remorseless enemies," and that "not exceeding *one per cent.* of the ova laid in the natural way ever produce a living animal." Contrast these statements with the artificial system, and the gratifying result is an increase of at least *seventy-five per cent.*, and even this average is overcome at the present time, at the Newcastle establishment, where, at its commencement a few years ago, only thirty and forty per cent. was obtained; but now, by close application and well devised experiments, *ninety per cent.* of the ova laid down has produced living fish, amounting in the gross in one season to upwards of *three hundred and fifty thousand* young salmon.

These statements, founded as they are upon facts, ought to show clearly, even to the hitherto doubtful and prejudiced individual, the great superiority of the one system over

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the other, and when it is also shown that, by the application of ordinary intelligence and industry, an increase of seventy-five or eighty per cent. of one of the natural products of the waters of the country can be brought about by this improved method, it ought not to be viewed in any other light than that of wisdom and economy on the part of the people of a country to generally adopt it.

Perhaps in no part of the globe can there be found so wide a field for successfully carrying on this new industry of propagating fish, both by natural and artificial means, as in the Dominion of Canada. The limpid water of its many large rivers and multitude of smaller streams, its immense inland seas of pure fresh water, and the numerous inlets and bays to be found everywhere along its extensive maritime coast, are sources for yielding wealth that cannot be surpassed. And now that the people and the Government are becoming more alive to the great benefits which are to be obtained from the inland and coast fisheries of the Dominion, every effort should be put forth by those in power, not only to sustain, but also to increase and multiply the product of those extensive nurseries, by a vigorous application of such means as will best conduce to the growth and expansion of the piscine wealth of Canada.

Transactions at Newcastle during the Season of 1872—73.

The transactions at the Government establishment here have progressed in as satisfactory a manner as in former years. From the number of ova laid down during the autumn of 1872, both of salmon and white-fish, the yield of fry was very gratifying, and somewhat exceeded the percentage of the previous year. The dry impregnation method, upon which I treated more particularly in my last annual report to your Department, resulted most satisfactorily, and has been adopted in all my experiments since then, and I notice that its application has become general in the various fish-breeding establishments on this continent. It may be well termed the greatest piscicultural achievement of the present day. It is simple, easy, and of successful application, even by a novice in the art; it calls forth the highest meed of commendation, and I have no doubt its satisfactory results when generally known, will cause its general use amongst pisciculturists throughout the world.

Young Salmon, planted in 1873.

The supply of salmon fry reared from the eggs laid down during the autumn of 1872, was in every way satisfactory, amounting in round numbers to nearly three hundred and fifty thousand. When arrived at the proper age for distribution, they were planted in most of the streams that had been selected in former years for the same work. A large number were deposited in the Trent River, in Grafton Creek, the Rouge, Highland Creek, Wilmot's Creek, the Humber and Credit rivers; also in Saugeen River, near Mount Forest, and in Salmon River, below Ottawa.

The system adopted in transporting them was similar to that of previous years, namely, in cans. In some instances, fifty-gallon barrels were used, half filled with water, in which were placed large perforated zinc cans, about half the depth of the barrels and fitting snugly inside. Lids were made to open with hinges, so that when closed the large cans could be submerged in the river or other water over night. By this means the water would freely percolate through the perforations. The holes of the zinc were of such a size as to prevent the escape of the fry through them. The cans were placed inside the half-filled barrel of water and, just before starting on the journey of distribution, the young salmon, several thousands in number, were put inside the cans. During the journey, the oscillating movement of the car or other vehicle used in carrying them from place to place, so disturbed the water as to drive it constantly in and out of the perforations of the cans The movement of the water in the barrel and through the holes of the zinc, acted like wind-bellows, and so thoroughly aërated it as to keep the young fish alive and healthy much longer than by any other process hitherto adopted.

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Saugeen River.

Mention was made in my report of last year, of the experiment of planting young salmon in the waters of the Saugeen River, which empties into Lake Huron; the object being to ascertain whether this superior fish can be acclimated to the waters of our great inland seas. It is held by some writers on the habits of fish, that the immense areas of Lakes Huron and Superior, with the vast supplies of food contained therein for large voracious fish, would be found to be well adapted, and sufficient to sustain and grow salmon. With this view, a large number of young fry were again deposited in a portion of the Saugeen River, near Mount Forest, in June last, very little loss being experienced in their transport over so long a journey by railway. This experiment will be continued for some years, in order if possible to obtain some definite results from the scientific venture.

Ottawa River.

Much interest was taken by the citizens of Ottawa, upon the second annual arrival there, of a large number of juvenile emigrants of the "genus salmo," intending to locate themselves in the waters of the Ottawa River, whither a great many of their kind had proceeded in the previous year, 1872, their destination being a well selected spot on the Salmon River, some forty miles below the city. These important young colonists after reaching Ottawa from this place by railway, were accompanied down the river to their new settlement by the Commissioner of Fisheries, and some prominent scientific gentlemen and leading naturalists of the Capital. Their combined efforts and zeal aided me most materially in the great care, attention, and labor requisite for the safe conveyance by small boats, up a rapid stream of an interesting family, some ten thousand in number, to their future home.

A good account was received from persons who had seen many of those which had been located there during the previous season, as numbers of parrs had been noticed upon the rapids of the river in the previous summer and autumn months. This planting of young salmon in the waters of the Ottawa will be continued in order to re-stock a portion of that river with this fish, which in years long gone by were plentiful there.

Trent River.

Here a large number of salmon fry were distributed in many well-chosen places, some distance up the river. In performing this work my assistants were informed by respectable inhabitants, that young salmon of the former years planting were seen in various parts of the river.

Grafton Creek.

A very large supply of young salmon was put into this stream, some distance up it, in the shaded, shallow, gravelly parts. In this work I was ably assisted by Robert Standly, Esq., a very prominent and wealthy resident land-owner in that immediate neighborhood, who took a most lively interest in the undertaking, displaying his zeal in practically scattering the little fish here and there with his own hands in various well adapted places, for their future growth.

Barber's or Bowmanville Creek.

This stream is situated only a few miles west of this place, and on account of its proximity to head-quarters, a large number of fry was put into it. When referred to in a later part of this report, this creek will clearly show marked evidences of the benefits resulting from the planting of young salmon in it in former years.

Duffin's and Highland Creeks, and the Rouge.

All these streams had a fair quantum of fry placed in each of them, there was also a number of young salmon taken from the Government fish-breeding establishment by

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private individuals, residents upon some of the above streams, and deposited in them, in such places as was considered most advantageous for food, shelter and safety.

Humber and Credit Rivers,

In each of these rivers, young salmon were planted in goodly numbers. For the Credit, some of its tributary branches at Georgetown were selected, both on account of the purity of water in them, and the easy approach to that place by railway. Here a pains-taking and zealous interst was shown by the Rev. C. C. Johnston, rector of the town, and by the chief magistrate, Mr. Barber, who is a large mill owner and landed proprietor there, both of them having "taken a hand" in the work of putting the little salmon into the stream. This act brought vivid and pleasurable recollections to Mr. Barber's mind of by-gone days, when the very spot then selected in the stream, had contained its hundreds of fine large salmon.

Wilmot's or Baldwin's Creek.

This being the stream where artificial salmon culture was first founded in Canada, and where the Government piscicultural works are now carried on, would necessarily receive its due supply of the product of its original parentage—independent of the numbers that must in all cases escape from the hatching house into the main stream, through the various appliances that may be used to prevent it,—several large lots of young salmon were carried miles up the creek, and there safely deposited.

Distribution of young White-fish.

A very large number of the fry of this valuable fish were hatched out in the spring of 1873, principally in the month of April. The white-fish ova are procured and laid down in the hatching trough about a fortnight later in the season than those of the salmon. The time of the hatching out of the fry however, is as nearly as possible, the same as the salmon. Upwards of a million, when a few days old, were turned into the waters of Lake Ontario.

APPEARANCE OF SALMON DURING THE FALL OF 1873.

Wilmot Creek.

In this stream, the show of salmon was very satisfactory, and more than usually large, many of them were fine fish, and of a large size; they were to be seen in almost every pool during the whole of the spawning season. It was nothing uncommon to count from ten to thirty in some of the pools at one time. One spot in particular seemed to be a favorite resort for them, being immediately underneath the bridge of the main turnpike road, where they appeared (almost purposely) to expose themselves openly to the view of the public when passing by. The travelling community were constantly in the habit of alighting from their vehicles to look at them;—it was not unusual to see as many as thirty and forty large salmon lying there at one time.

The creek, from the fishery buildings down to the end of the rapid part of it, just before reaching the dead water of the marsh (a distance of about a mile and a half), was literally dug up by the salmon wherever gravel could be found upon which to form a nest. On one occasion, within the distance of one hundred rods in the stream, one hundred and twenty freshly worked beds were counted. The system adopted this season was to allow the parent fish their freedom as much as possible in making their nests and laying their eggs in the natural way. This plan was found to be a necessity on account of the lowness of the water in the creek, which prevented the larger fish from getting over the shallows up to the buildings. The consequence was that they commenced spawning further down stream. It was also thought advisable (for this season's operations,) rather than to disturb these large

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fish in the effort of catching them, to allow them to pursue the natural course of breeding. Another reason was that the number of eggs already obtained by the artificial process in the reception house was equal to that of the previous year. The quantity of eggs laid in the stream by the natural system was very great and very much in excess of those procured by artificial means. The show of grilse was extremely good, giving satisfactory evidence of a thorough re-stocking of this creek.

A number of salmon which entered the reception house bore the marks of previous years. Fifty-one having entered the trap during the night, it was found on special examination that twenty-seven bore the mark of 1871. In addition to those bearing the mark of 1871, there were found many during the season having marks of previous years.

Grafton Stream.

The return in this stream was not at all satisfactory; the reason, I presume, being the ruthless and wanton destruction practised there by a band of lawless vagabonds, whose shameful depredations were particularly alluded to in my reports to your Department for the last two years. This stream, from its very limited size both in volume of water and extent of spawning ground, offers facilities for the total destruction of every fish found in it; this, too, could be done in a very short space of time, and it has been practised by those disguised ruffians, part of whom were engaged intimidating the guardians whilst the remainder were slaughtering the fish.

Barber's or Bowmanville Creek.

This stream has made a very good display of salmon this autumn. My time being so fully occupied I did not personally inspect it; my son, however, did so, and reported very favorably both as to the numbers of fish and beds which he saw in it. The results from the planting of young fry there, which were reared at the Newcastle establishment, are now satisfactorily established. In order to show this, I cannot do better than copy a portion of the report of Mr. Coleman, the sworn guardian of the stream, whose efficiency for the past two years is highly commendable. He says:—"Commenced duties on 13th October, saw two beds and five salmon. On the 18th, counted thirty fish and twenty-eight beds. On the 26th, numerous visitors came to see the fish working quietly in their beds. One hundred and thirty were counted, males and females; erected a tent on a suitable place in order to keep close watch of the salmon. On the first week in November, some dark fish began to leave. After this, fish were leaving the creek daily till the 17th, when they had all disappeared. This creek is admirably adapted for the propagation of salmon, the water being deep at its mouth the bar having been dredged away to admit vessels, which allows fish to enter freely; had great difficulty in keeping salmon back from getting under the mills till I made the rack at your suggestion. Millers tried to flood the rack away, but it was useless, no fish got up. This temporary rack answered well, but I shall want a more permanent one by next season."

Duffin's Creek.

A satisfactory statement of the improvement of this creek presents itself from returns made to me. Being unable to reach this stream during the spawning season, I despatched my son to examine it. His statement show that a large number of fish had entered the stream. In further corroboration of this I give extracts from the report of your very efficient officer, J. W. Kerr, Esq., who has displayad more than ordinary exertions in overseeing this and other streams under his charge. He states:—"The first salmon entered Duffin's Creek on the 15th October; on the 23rd, about thirty came in; on the 24th, some ten more; on the 25th, twenty salmon beds were counted and about forty fish; on the 28th, several more fresh fish came up; on the 30th, there came up several more fresh salmon. On the 1st November, there were forty salmon nests within the distance of one mile; on the 10th, several fresh salmon came up; on the 12th, fish were working well on

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the beds; on the 20th, there were about fifty beds altogether; on the 22nd, the creek had become pretty clear of fish, having returned to the lake. From one hundred to one hundred and twenty parent fish were in Duffin's Creek this season. Some salmon were reported to have been killed by poachers during the season.

Lynd's Creek, Highland Creek, and the Rouge.

No definite statement of the improvement of these streams has been received by me for this season; some salmon were, however, seen in each of them.

Humber and Credit Rivers.

From neither of these streams have I received any authentic account, but I presume there must have been several salmon in each of them. It has been stated to me by transient persons that salmon were seen in the Credit during last autumn.

River Trent.

This river as yet has had no special guardians appointed in charge. No official reports could therefore be obtained as to the appearance of salmon in it, whilst its large size and rapid waters would almost prevent the probability of casual observers noticing them. Although having no positive proof, I nevertheless feel convinced that a considerable number of salmon have entered that river; also from reports of an indirect nature which I have received I should infer that a number of fish have been killed at the foot of the timber slides and in the raceways under some of the mills. To prevent this and otherwise protect this first-class river, efficient and trustworthy persons will require to be appointed as guardians of it next season, otherwise it will be useless to continue the planting of young fry in its waters.

White's Creek at Cobourg, and Smith's Creek at Port Hope.

In each of these streams, it has been reported to me by respectable inhabitants, quite a number of salmon were seen. This goes to show that salmon are again finding their way into nearly all of the streams entering into Lake Ontario where sufficient quantities of water enable them to get over the shallows. Their entry into either of these streams will prove of little service for production in the natural way. Impassable mill-dams are erected across both of them a short distance from the lake shore, thereby leaving no space for spawning beds. Should salmon become more numerous in them next season it will be advisable to erect some description of pens or enclosures in which to catch them and take the ova to the Newcastle breeding establishment. This method would also prevent the killing of these salmon by lawless persons, which now undoubtedly takes place.

Rearing Black Bass.

A trial was made during last season in the rearing of black bass in order to show clearly by a practical experiment the exact season in which this fish deposits its eggs and hatches out its young. Having no doubts in my mind, but hearing so many different views advanced by others, I considered it advisable to investigate the subject fully by close observation and a thorough trial. Independent of the knowledge to be thus obtained of the habits of fish, I had another object in view from which, when fully demonstrated, I could with perfect certainty recommend to your Department a correct close season for black bass throughout the province. The close season hitherto prescribed has not protected this fish during its spawning time, and fishermen have been killing them in greater numbers when they were approaching their spawning beds and in the act of laying their eggs than at any other time. The consequence is that this valuable fish is now becoming, comparatively speaking, very scarce. During last winter I procured black bass at the

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Bay of Quinte, a few miles below the town of Belleville; they were obtained from fishermen who were then engaged in catching them through holes in the ice with hook and line for the market where they were eagerly sought for. Those were carried home in barrels partly filled with water, and then put into tanks in the breeding house. By far the better plan, however, was in the month of May following, when I got them from the fishermen whilst hauling their seines, at which time they catch large numbers on the Bay of Quinte. These were taken safely home from Belleville by rail and placed in a pond previously prepared for them. They did exceedingly well, being regularly fed and eating very greedily.

The pond was about twenty rod long in its windings, with an average width of one and a half rods; the depth varying from eighteen inches to four feet, with a constant flow of fresh water. The fish had sufficient freedom, and appeared as active and healthy as in the waters of their native bays and rivers. A few losses were sustained in catching and carrying, but it was trifling, leaving a stock in the pond of about one hundred.

On the 25th May, some of the bass began to pair off, and to commence making nests; some being made in the deepest parts of the pond, others in the shallow places; some were formed on gravel beds; others, where sunken sticks were fastened at the bottom of the pond. They were invariably hollowed out a little, and made clean by the action of the fish, which gave them a bright appearance; the nests being round in shape, and varying from twelve to eighteen inches in diameter. Upon those, the parent fish deposited their eggs and milt. Nest-making terminated about the 10th of June; the time elapsing from the first formation of these beds until the young fry were noticeable, varied from twelve to sixteen days, and a further period of five and six days took place, before the little fish left the beds. After the eggs were first laid, they were seen with difficulty through the water upon the nests. The surface of the beds presented in a few days a very dark appearance. When hatched out, a perfect mass of little black animals, not unlike tadpoles, covered the whole bed. After five or six days, as stated above, they disappeared from the nest amongst the weeds and other substances, where hiding places could be found.

It was curious to observe the extreme solicitude and watchfulness displayed by the parent fish, from the time of hatching until the young bass left their beds, and this feeling seemed to grow stronger until such time as the fry disappeared amongst the weeds. So intent were the old fish in caring for their progeny, that they seemed to care nothing for their own safety, exposing themselves continually to be destroyed by the simplest and rudest kinds of weapon.

On my leaving for the Maritime Provinces, on official business, in the beginning of July, these bass, both old and young, were doing very well. I gave most particular instructions to the guardians of the premises to take special charge of these bass, and to devote more than ordinary care for their protection, which, from their general efficiency and good conduct, I feel assured, were duly carried out. But, now comes the tale of the sneaking vagabond, who coming on the premises during the day, is shown over the grounds by the guardian, and expresses his delight at seeing these bass leaping in the water almost at his feet. He returns again stealthily in the night, and prowling about, watches the retirement of the guardian, and then with destructive weapons, kills and destroys these innocent fish, for they become an easy prey to his evil machinations within the narrow and otherwise prescribed limits of the shallow pond. These scoundrels gloating over their barbarous successes, care nothing of the painful feelings and bitter disappointment thus caused to persons who, by experiments of this nature, are desirous of assisting and enlightening their fellow-men, in that which will conduce to their benefit and that of the whole country; and until the great mass of the people will by every means in their power, frown down rather than quietly encourage (as they too frequently do) such reckless braggarts, who stalk about in their midst with the smile of effrontery upon their faces, after having committed such dastardly acts; and unless the Legislature of this country shall enact more stringent laws, and make criminal offences of this nature, it will be quite useless for any one, however zealous he may be, to continue a

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work of this nature. In consequence of the loss just related, it will be necessary that the ponds now unenclosed by proper fences, should, during next season, have around them a strong substantial board fence. By this means, there would be much less chance of lawless persons entering the premises unobserved by the guardian; and by extending the fence so as to enclose the property held by your Department, much time and labor would be saved, not only in preserving the fish in these ponds, but also in protecting the salmon from poachers and others during the spawning time.

Whilst writing upon the question of a close season for bass, I must remark that the protection of salmon trout in a similar way, is of still greater importance. The commercial benefit which obtains from the sale of this fish, both fresh and cured, demands that the best possible means be adopted for increasing and protecting it. The fishermen engaged in catching salmon trout, not content in obtaining their supplies in the deeper waters, and in the earlier periods of the year, follow them upon their well-known shallow spawning grounds, very late in the fall. The destruction of fish and eggs at this time is incalculable, and can be comprehended and fully realized only by those who may have been eye-witnesses to the havoc. In procuring trout ova for the fish-breeding establishment here, one may form a full conception of this immense waste of fish eggs. Late in October, and even up to the middle of November, when the law still allows of this fish being taken, barrels full of mature ova are either lost in taking the fish out of the nets, cleaning them on shore, or in carrying them to the markets of the country. Were it necessary, in order to satisfy the selfishness of fishermen, and the greed of people who care not for eating pregnant, foul, unwholesome fish, to exterminate from the waters of the country a means of giving riches and food to the people, then let us continue the system at present followed of indiscriminate killing of salmon trout the whole year round. If, on the other hand, it is desirable that a highly prized article of food for domestic consumption and foreign trade should be maintained for the future welfare of this Dominion, then it would be wise to adopt a course most likely to produce that effect, and to secure it the most reasonable way which presents itself, is to afford these fish a close season, in which they may be unmolested by man, and enabled to lay their eggs for producing their young. This period should be from the 15th of October, till the 1st of December, and should be maintained without any deviation, either as to time, place, or circumstances. In like manner should this stringency in the protection of fish at certain season apply to the white-fish, as according to observations made during the time of my connection with your Department, none of the valuable fishes appear to have diminished to such an extent as they have, and I feel free to state that this result has been mainly brought about by neglecting to have a proper close season set apart, in which they might lay their eggs in quietude.

The present close season for white-fish commences on the 19th November; at this time, almost the whole run of this fish will have completely finished laying their eggs for the year. During the past few seasons, no white-fish eggs could be obtained by me on the Detroit River, for supplying this establishment after the 19th November, and none could be got this season after the 15th day of that month; all the fish at these dates were "clean spawned out;" so thoroughly was this the case this year, that no eggs could be procured by any means whatever for the fish-breeding establishment at Newcastle. From these facts and trials, covering a period of several years, it is conclusively demonstrated that the killing of white-fish at the exact time of their spawning, is actually made legal by the clauses of the Fishery Act. In making any suggestions to remedy this evident evil, they will come in direct opposition to the views and wishes of many of the fishermen of the present day, for they are now yearly applying to have the time extended a week longer, namely, to the 26th November. Should these selfish demands be complied with, it will be quite useless to have any reference whatever in the statute to a close time for white-fish.

I feel it incumbent upon me to respectfully suggest such views as may meet with your sanction and approval, although at the same time those suggestions may come in conflict with the views entertained in certain localities. Upon these grounds, and for the reasons

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above stated, I would humbly suggest that a change should be made in the close time now established by law for white-fish, and instead of commencing on the 19th of November, and ending on the 1st of December, it should commence on the 10th of November, and terminate on the 1st of December.

This suggestion, if adopted, would more particularly affect the white-fish operations on the Detroit River. That river being an international boundary between Canada and the United States of America, calls forth the necessity of some joint action of both Governments, whereby similar regulations relative to the modes and times of fishing might be mutually agreed upon, and I should judge from what has transpired in the interviews which I have had, and the ideas and sentiments which have been freely expressed on the part of the American citizens, interested in this subject, no serious difficulties would arise in the carrying out of so important a work.

It being now well established that a large number of fish eggs can be saved from destruction, and also a much greater percentage of young fish obtained from them, by the artificial method of propagation, it would be unwise not to apply this improved system as a means for increasing the quantity of white-fish in the neighborhood of the Detroit River. Were this project favorably considered by your Department, it would be taken as a great boon by the inhabitants of that portion of the province, and be most heartily responded to both by the people, and by the authorities on the American side of the river, who are now taking a very deep interest in instituting some means by which the present decreasing supply of the white-fish might be improved. And from the strong feeling manifested by American citizens to enter into an enterprise of this kind, no difficulty would arise in obtaining the necessary funds to erect jointly a commodious pisciultural establishment upon that river, for the artificial rearing of white-fish.

Prospct and Condition of Eggs now on Hand.

There are at the present time in the breeding troughs of the Newcastle establishment upwards of three hundred thousand salmon eggs, and also a very large number of salmon trout ova, all of which are in a healthy and prosperous condition.

In the months of October and November last there were seven hundred and twenty measures of salmon eggs gathered from the parent fish and impregnated by the artificial method; the measure was made to contain just five hundred, so that in the gross, there were three hundred and sixty thousand ova laid down. From this number, there have been picked out thirty-nine measures, or nineteen thousand five hundred bad and imperfect eggs, leaving still in the troughs, three hundred and forty thousand, five hundred, most of which may be relied upon for producing living fish. This statement shows thus far a loss of a little over five per cent.

The time having now arrived, when almost the whole of the unimpregnated and otherwise bad eggs, have shown themselves in the opaque white color, which they always present in that condition, it may be safely computed that the percentage of loss until hatching time will be very small, and that the proportion of young salmon to be realized from the number of eggs laid down this year, will be in excess of former years.

As space will not permit of further remarks, I beg in conclusion to state, that all other matters in relation to operations at this establishment are in a satisfactory condition.

I have the honor to be,

Yours obediently,

SAMUEL WILMOT.

Newcastle, Ontario,
December 31st, 1873.

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APPENDIX J.

REPORT ON THE FISH BREEDING ESTABLISHMENT AT RESTIGOUCHE, FOR THE SEASON OF 1873.

To the Honorable
The Minister of Marine and Fisheries, Ottawa.

SIR,—I have the honor to inform you that I commenced taking ova from parent fish on the 15th October. The fish were taken with nets in the river while in the act of preparing the beds and spawning, and put in places prepared close to shore in, order to revive before stripping. I found the fish fully ripe, giving all their eggs in about three days; the eggs having to be transported to the breeding-house afterwards. I manipulated sixty fish, many of them very large, and obtained nearly 300,000 eggs. From the appearance of the fish taken, I have come to the conclusion that the spawning was over by the 15th September, and on the 24th of the month not a fish could be found. My observations of the fish during the spawning time of the last two seasons did not lead me to apprehend much difficulty in procuring any quantity of parent fish when wanted, as the water is higher at that season of the year than usual, and the fish spawn in a moderate current in shoal water close to shore, where they can be easily taken with a seine. This observation rendered me indifferent about laying in a stock of parent fish early, as my doing so would necessitate a reception house in the pond. Mr. Wilmot suggested this arrangement; I however imagined it could be dispensed with, but I now see my error, as the early arrival of the fish and the low state of the water deranged all my calculations. With the exception of a few thousands, the eggs seemed to do well for about four weeks, when all at once on turning or moving them, a small white speck could be observed on the clear end of the eggs, which in a few hours spread all over it. This continued for two weeks, until I had only ten thousand left. Unable to account for such a wholesale loss, and attributing it partly to the newness of the zinc trays on which the eggs rested, I emptied the remaining eggs into the wooden troughs, in which they have since remained, and although some since turned bad, I have still 8,000 good. This being my first season for attaining any practical experience in pisciculture (which can be acquired only by actual experience) and as I now see instances where former errors can be obviated, I feel sanguine of being successful another season. I have no doubt a large per centage of my loss has accrued through improper impregnation, as well as in not moving the eggs with proper care, but this I will obviate by having a small reception-house in the pond, and placing the parent fish in it in August. Mr. Wilmot recommended this last summer, but it was not done for want of time and men. By doing this I can, in stocking my pond, have the fish in more equal proportion, as I found in taking the fish in fall I had nearly three females to one male.

In order to save expense I dispensed with my assistant in December, and closed the building, saving fires, &c., placing my remaining ova where the frost could not reach it, and where I can examine it daily.

In order to obtain all information possible, I visited the breeding establishment at Miramichi. On comparing notes with Mr. Wilmot, the officer in charge, I found no difference in his method and mine, in stripping the fish, mixing the fluid, &c.; he also has met with very great loss, which he attributes principally to the unfinished state of the building in the early cold weather. On my drawing his attention to the new zinc as a probable cause of loss, he admitted the possibility at once, but having bred in Ontario for succesive seasons on zinc, he was unwilling to admit its being very injurious. I also learned while there that they experienced no trouble from eggs rotting, they being hatched on fine gravel.

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I am extremely sorry to forward so unfavorable a report, being fully under the expectation I could make it a success, and I can only assure you it has not occurred through any lack of diligence or industry on my part, and can only say from the experience and information gained, that another year will, I hope, produce a different result.

I have the honor to be, Sir,
Your most obedient Servant,
JOHN MOWAT,
Fishery Overseer,
In charge of the Restigouche Fish Breeding Establishment.

Dee Side, Matapedia,
31st December, 1873.

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APPENDIX K.

REPORT ON THE SELECTION OF A SITE, AND THE CONSTRUCTION OF A FISH-BREEDING ESTABLISHMENT AT GASPÉ BASIN.

To the Hon. A. J. Smith,
Minister of Marine and Fisheries,
Ottawa.

Newcastle, Miramichi, N.B.,
December 31st, 1873.

Sir,—I have the honor herewith to submit to your Department, a report on the selection of a site, and the construction of an artificial salmon breeding establishment on the Dartmouth River.

In accordance with instructions received from Mr. Samuel Wilmot, on my arrival at Gaspé, I proceeded to explore the rivers emptying into Gaspé Bay, with the view of selecting a suitable place to carry out the instructions received from your Department. Before commencing my journey up the river, I visited a small brook known as the Mill Brook, and emptying into the Dartmouth River at L'Anse aux Cousins Cove, about two and a half miles from the village of Gaspé. I found this stream well adapted to the purpose required; but being informed that there were some very nice streams further up this river, I determined to inspect them. Accordingly, I engaged two men and a canoe, and proceeded up to a point about four miles above the falls, and twenty miles from the mouth.

In consequence of the very low state of the water at the time, the journey was attended with considerable difficulty, having to carry the canoe up nearly all of the rapids; it took two days to make the twenty miles. While journeying up the river I noticed a number of beautifully clear brooks, all of which I examined for some distance from their mouths; some of these appeared to be well adapted for the purpose of artificial salmon breeding, but owing to the shallowness of the river and the rocky and mountainous nature of its banks, they would be very difficult of access either by land or water, and would necessitate the expenditure of a large sum of money to build the requisite appliances for the successful working of the proposed establishment. I observed a large number of small parrs on the shallow rapids of the river, and also a considerable number of the parent fish in the different pools, notwithstanding that a great quantity had been taken in the early part of the season by net fishermen, the low state of the water preventing them going above tide-water. By far the best spawning grounds in this river are found above the falls, in fact it is almost one continuous spawning bed for the four miles over which I travelled, and I was informed they extended some distance farther up; the current is not so rapid, and the bed of the river much smoother and composed of finer gravel. These spawning grounds, I understood, are seldom or ever reached by the parent fish, in consequence of the difficulty in getting over the falls (I only saw five in the four miles); but, by the judicious efforts of your Department during the last season, in causing a portion of this obstruction to be blasted off, I entertain no doubt that these beds will be used to a much greater extent in future, and thereby tend to a large increase in the number of salmon frequenting this river. At the foot of the rapids I observed a small inlet or arm of the river, which, with a small outlay in building a dam across its mouth, could be made available as a pond for the reception of the parent fish, where they could be confined until the spawning season arrived. Not finding a stream so well adapted or accessible as the Mill Brook, I returned down river, and after examining and testing the latter thoroughly, I decided upon recommending it as the best site for the erection of an artificial fish-breeding establishment, for the following reasons:—

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1. Being on the same side of Dartmouth River, and in close proximity to the village of Gaspé, where the requisite building materials and men could be obtained for the erection of the building and other appliances.

2. Being in the midst of a good settlement, and close to the telegraph and post offices thus enabling the manager to hold direct communication with your Department.

3. It being the best distributing point in the locality, and accessible at all seasons of the year.

The Mill Brook is a pure limpid stream, taking its rise some four or five miles from the right bank of the Dartmouth River, and is fed chiefly by springs, and reputed to have a never-failing supply of water, which I should judge to be the case, as notwithstanding the extreme drought which prevailed during the months of June and July, there was still an ample supply for all the purposes required. I did not consider it necessary to examine the York River, as I was informed it did not offer any facilities for artificial salmon breeding, and is settled for only a short distance from its mouth.

Having reported upon my explorations to Mr. Samuel Wilmot, I received instructions to purchase a sufficient quantity of land upon which to erect the necessary buildings, ponds, etc. I procured the land from Mr. Henry Davis for the sum of $60, and as it was desirable to push the work forward as rapidly as possible, in order to be prepared for this season's spawning, I immediately employed a number of men, and commenced work at once. Learning that there was a large quantity of cedar timber owned by your Department, lying on the Peninsula, about four miles from the proposed site of the establishment, I applied for, and obtained permission to use it, thereby saving a considerable amount of time, as the getting of timber out of the woods at that season of the year would have been accomplished only with great trouble and expense. After digging out the foundation to the solid rock, I commenced the erection of the breeding house, according to a plan furnished me by Mr. Wilmot. The building is one and a half stories high, sixty feet long, and twenty-four feet wide, outside; the frame is of cedar timber, twelve inches square throughout, with a double row of studding on sides and ends, boarded inside and out, leaving a space of twelve inches to be filled with sawdust, which I think will make it perfectly frost proof. When completed, it will contain fifty-six breeding boxes, and have a capacity for laying down over a million salmon eggs, which can at any time, at a slight cost, be increased by the introduction of a second range of troughs. Spruce deals being almost the only kind of lumber manufactured in Gaspé, I found considerable difficulty in obtaining lumber of other dimensions, but through the kindness of Messrs. Lowndes, the only mill owners there, who, although at considerable inconvenience to themselves, kindly consented to change their guages and saw me what inch boards I required; the seasoned pine lumber I obtained from your agent at Quebec.

Presuming that it was the intention of your Department to complete the work in connection with this establishment this season, I built a pond for the reception of the parent fish, at a point on the York River, about twelve miles from the breeding establishment; this I considered was necessary, as neither the York or Dartmouth Rivers are navigable for the kind of vessel required for transporting the parent fish. By the erection of a small hut or shanty at this pond, the manipulation can be easily effected there, and the spawn brought down to the breeding-house in boxes or cans, in bark canoes. Upon receiving orders from Mr. Wilmot to discontinue operations here, for this season, I caused the building to be properly enclosed, and the dams completed, in order that no injury would be sustained through the winter. The cost of the construction of the building and other appliances so far, amounts to $1,250, and it would require about $300 more to fully complete it, and place it in readiness for the reception of spawn. This amount includes the cost of material for completing the building, which is on the ground ready for resuming work next spring.

I have the honor to be, Sir,

Your most obedient servant,

A. B. WILMOT.

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APPENDIX L.

REPORT OF SAMUEL WILMOT, ESQ., ON THE SELECTION OF A SITE, AND THE ERECTION OF AN ARTIFICIAL SALMON BREEDING ESTABLISHMENT ON THE MIRAMICHI RIVER, IN THE PROVINCE OF NEW BRUNSWICK, DURING THE SEASON OF 1873.

To the Honorable A. J. Smith,
Minister of Marine and Fisheries, &c.,
Ottawa.

Sir,—having visited the Miramichi River in August last at the request and by the instructions of your Department, for the purpose of selecting a site and erecting thereon an establishment for the artificial breeding of salmon, I beg to report the particulars of my transactions in relation to that work.

On the sixth day of August I arrived at the town of Newcastle, on the Miramichi River; when there I received despatches from your Department, instructing me to examine minutely the several brooks and streams upon the north-west and south-west branches of that river, with the view to select therefrom one that would be best adapted for an artificial salmon breeding establishment.

Calling upon Mr. Hogan, the local fishery officer there, and having had a conversation with him on the subject, I at once procured his services and proceeded up the north-west Miramichi, examining closely the various streams which enter it on the south bank as far as the Little South-West River and the Sevogle. On this side I noticed Tozer's brook, Stewart's mill-stream, Goodfellow's brook, Maltby's brook, Red Bank Creek and several lesser streams, making notes in reference to each of them, and obtaining all the information that I possibly could from the inhabitants residing along the river.

Having inspected the streams entering the south side of the Miramichi, I pursued a similar course with those entering the river on the north side. Of the many which I saw Ellison's brook and M'Coy's mill-stream presented the most satisfactory appearances. Having completed an inspection of the north-west, I returned to Newcastle in order to proceed up the south-west for a like purpose, when I met Mr. Venning, Inspector of Fisheries for New Brunswick and Nova Scotia, who joined me on my tour up the South-West. His intimate knowledge of the river assisted me very much in my enquiries. Calling upon Mr. Parker, the local overseer of that branch of the Miramichi, who lives about twelve miles above its mouth I procured his services also; and proceeding up river as far as the Renous, examined every stream by the way. Amongst these were the Tannery Springs, Ferguson or Crocker's mill-stream, Elm-tree brook, Indian Town Creek, with other smaller brooks; on the opposite shore were Doyle's brook, Barnaby River, and other streams.

Having visited the South-West, and obtained all the information possible as to the supply of water in the several small streams, and their purity, I again returned to Newcastle.

Here, after collating the information which I had obtained upon both branches of the Miramichi, I set about making a selection of the best site for the object in view. Only a few of the streams possessed the necessary conveniences for the location of buildings, whilst others were deficient in a supply of water for the works. In some instances where a proper selection might be made, mills were erected, using the whole supply of water at times; others were held by joint owners, making it next to impossible to

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purchase a site; others were too remote to answer the purposes. Upon further inspection, and obtaining most satisfactory accounts from old residents, both as to the constant supply and purity of water in Stewart's mill-stream, I selected it for the site of my operations. This brook is situated on the south side of the north-west Miramichi, and about two miles above the Miramichi bridge where the line of the Intercolonial Railway crosses the river. It takes its rise in a small lake some three miles in the interior, and running through an almost uncleared country over a rocky gravelly bed, empties into a pretty secluded cove in the main river, into which the tidal waters regularly ebb and flow. The stream is also reported to be never failing in its supply of water. The head of the cove is crossed by a long elevated bridge in connection with the main road, and is the general thoroughfare for the traffic of the right bank of the Miramichi. Above the bridge a small plateau of a few acres of grass land dotted with evergreens is found. This piece of table land is surrounded on both sides and in rear by lofty hills, clothed to their summits with small evergreen trees and second growth birch and maple, which when tinted with the autumn frosts form a beautiful panoramic picture. This secluded and sheltered position of the locality offers great advantages for the contemplated work, by which the useful and the ornamental may be combined. The water in this brook runs very rapidly over a gravelly bottom, and during my first inspections appeared very pure and clear; at future visits after heavy rains had fallen it became discolored, being of a reddish or porter-like color. It would appear that this change in the color of the water after rains or freshets is universial throughout the Miramichi district, and in fact all through the lower provinces. Upon enquiry I learned from lumbermen and fishermen who had frequently visited the upper waters and smaller sources of the river that this reddish color was invariably found after rains. This peculiarity does not prevail in the streams emptying into Lake Ontario, although it does exist in the rivers farther westward. I therefore felt some anxiety as to its cause and its effects on breeding operations. I found this change in the color of the water was caused by the red colored clay and loam which prevails there. In travelling inland over that district, I noticed after a rain had fallen the water in the pools, ruts and ditches on and alongside the roads was always of a very dark reddish brown color. This, with other surface water from swamps and lowlands flowing into the brooks and rivers, undoubtedly produces the effect referred to. In Ontario the streams after a freshet are of a dirty milky color, caused from surface washings of the soil, which is generally a whitish clay. With a view to satisfy myself still further in reference to the nature of the water of this stream I went up and caught in it several trout and likewise many (parrs) young salmon; the latter seemed more numerous in the stream than the trout; this circumstance was very satisfactory evidence of the fitness of the water for the purposes intended, as both trout and young salmon were not only plentiful in it, but were also found in different stages of their growth and well developed. From observation in reference to the water, and finding it was admirably adapted in every other respect to the forming of ponds; considering also its proximity to a well settled neighborhood, where postal and other means of communication could be readily obtained, I was induced to recommend it as the best site for artificial fish breeding purposes. The property through which this brook ran was owned by the Honorable Mr. Hutchison, who held it for a mill privilege; from him I learned that the value set upon the whole lot would not far exceed the price that would be asked for the front part where the mill site was. After communicating these views to your Department, and receiving an answer thereto, I purchased the whole lot of one hundred and forty acres for the sum of four hundred and fifty dollars. The stream in its windings crossing the adjoining lot to the east, which if held by persons constructing mills thereon would make it very annoying and perhaps injurious to the work of fish breeding below, I concluded, after consulting with the Minister, that it would be expedient to secure it. It was therefore purchased for the sum of four hundred dollars. In the purchase of this property two hundred and forty acres of land are comprised; upwards of sixty of it is cleared and fit for tillage. There are also upon the premises a good sound mill frame and an old frame barn, together with that which is considered

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there a good mill privilege; the whole cost being eight hundred and fifty dollars. In negotiating the purchase of this property with Honorable Mr. Hutchison the most liberal and friendly dispositions were shown by him, both in the reasonable value placed upon the lot and in his hearty co-operation in furthering the enterprise of establishing fish culture in that neighbourhood.

Having secured a requisite site, and the season being now far advanced, I immediately set to work to build dams and get the necessary buildings under way, so as to commence practical operations in breeding salmon during the following autumn. With the aid of my son, acting as my assistant, the levels of the stream were taken, the most convenient places for erecting dams were chosen, and an eligible site located for the buildings. Jobs were also let for forming the dams and raceways, and the men set to work without delay. In carrying out and overseeing this work and the after-work as well, a more than ordinary amount of inconvenience was experienced by us, having to travel almost daily to and from the premises to Newcastle, a distance of upwards of five miles; thus incurring considerable expense in horse hire and other requisites.

The plans for the buildings being in readiness, I arranged with a builder in the town to put up and thoroughly complete the building within a given time; all labor and material of every kind was to be furnished by him. The price of construction agreed upon was twelve hundred dollars. Whereupon I made arrangements to leave Newcastle, and proceed to Gaspé to inspect the work going on there under the charge of Mr. A. B. Wilmot, who had been engaged by your Department for that purpose.

Upon the eve of my leaving for Gaspé the contractor called upon me, and, to my great surprise, stated that he could not proceed with the work, having been disappointed in procuring men and material; notifying me at the same time that if I wanted the work done I would have to get some other mechanic to undertake it. At this unwelcome news I was sadly put about, particularly on account of the lateness of the season; having also a similar work on hand at Gaspé, and my presence being required at the Restigouche River, where I purposed calling on my way home. In addition, by this untoward circumstance, some ten days or a fortnight were necessarily lost. In this dilemma no other alternative was left but to look out for some reliable contractor, and losing no time I called upon every mechanic in the neighbourhood, asking for tenders, all of them far in advance of the first, some being more than double the price originally asked for, as follows:—

Messrs. Menzies and Adams	$3,000
Mr. George Brown	2,500
Mr. Perkins	1,750
Messrs. Sparrow and Vaughan	1,550
Mr. Smallwood	1,500
Messrs. McLeod and McLeod	1,450

The last named tender being the lowest, and the tenderers highly recommended, the contract was awarded them, deeds drawn up and executed, plans and specifications attached, sureties given, and the work entered into with an apparent good will to fully accomplish it and have the building in readiness by the specified time, in which fish eggs could be safely deposited during the approaching spawning season.

Upon finally completing this arrangement with the Messrs. McLeod, I again intended proceeding to Gaspé on the arrival of the next steamer, feeling much anxiety in the progress of the work there, and being also anxious to call at the Restigouche establishment, in order to give practicable information in manipulating fish, inspecting the premises and appliances before returning to Ontario.

It so happened, however, I had an interview with the Hon. Mr. Mitchell, and upon consultation it was considered most advisable that I should remain and complete the work on the Miramichi River, whilst Mr. A. B. Wilmot would attend to the Gaspé establishment. Complying with the above instructions, I remained at Newcastle, and by every means in my power endeavored to expedite matters. Whilst overseeing the con-

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struction of the ponds. buildings and other works in operation, I fitted up a vessel by which the parent salmon, after being caught in the rapid above, could be safely kept and conveyed to the ponds at the breeding house. In a trial of this contrivance whilst there, and also in using it during the remainder of the season, it answered the purpose most admirably. The arrangement consists in a strong scow fitted up in such a manner that a large number of salmon, say one hundred or more, after being put into it can be kept and carried in a safe and healthy state for some days, and during a somewhat longer journey. I shall describe this means for safely conveying fish, as it may prove of service to your Department.

Purchasing a strong river scow of the following dimensions, namely: thirty feet long, seven wide, and about twenty inches deep, I divided it by running a board partition lengthwise, and separating each side into several compartments, three by three and a half feet, formed with round inch wooden bars fastened at top and bottom of the scow, leaving a space between each of one and a half inches. Each end of the scow was left open to within about six inches of the bottom, so that when empty it would float sufficiently to admit of its being easily poled. A piece of plank was made to fit tightly in these open spaces at either end, so as to close them up when necessary. The scow was also decked over to allow the men to walk upon it in poling up and down. There were trap doors with locks and hinges on either side of the centre of the deck, of such a size as to cover about three of the compartments below. These doors, when locked, prevented the fish from being disturbed or frightened by the men on deck when at work.

The scow was in this way taken up to the rapids and anchored just below where the net was set across the river, plugs were then pulled out of the bottom of the scow, and it filled with water to within six inches of the deck. The current of the river would thus enter one end, pass through the bars of the several compartments and rush out at the other end of the scow. The salmon caught in the trap during the night were taken out by means of a small dip-net, and put into these compartments to the number of five and six in each. In these confined limits they could not rush against the bars with sufficient force to hurt themselves, and the constant flow of fresh water through the scow kept them in a healthy condition. By means of this scow, setting a net across the river and pitching a tent immediately alongside the bank, from which a close watch can be kept, I procured in a few nights upwards of one hundred salmon. They were then taken down the river to the breeding establishment, some sixteen miles, and at high tide the scow was run up the cove alongside the pond, where the cargo of fish was unshipped by unlocking the doors, dipping out the salmon from the several compartments into a hand net and putting them into the pond.

Although things were now well under way, both in the formation of the ponds and in the erection of the buildings, I felt somewhat apprehensive that the breeding house would not be sufficiently completed before the frosts set in. A newly constructed earth dam with a heavy pressure of water against it, is at first always more or less subject to breakage; time is required for the earth to settle and become solid. In the pond herein referred to the quantity of water was very great, covering a large area, and it was filled immediately after the dam was formed, in order to have salmon placed in it during the season in which they were to be caught. Any delay in making the pond would have prevented the possibility of putting salmon in it that season, therefore in filling the pond with water so quickly after the construction of the dam, a more than ordinary risk of breakage had to be encountered. As it was now getting late in the season, it was imperative that I should leave the Miramichi and return to Ontario. It was also equally necessary that some person having a knowledge of the business should be left in charge of the works. In this position of affairs, I had no alternative but to close the operations at Gaspé under Mr. A. B. Wilmot's superintendence, and order him over to take charge of the works on the Miramichi; it being impossible to carry on both works, without procuring the services of some competent person skilled in fish culture. Instructions were therefore given to close operations at Gaspé, and to have the buildings and dams made safe against any casualties during the severity of the winter, or the freshets in the

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spring. Shortly afterwards Mr. A. B. Wilmot returned to Miramichi, where I formally put him in charge of the works, giving him at the same time such information in relation to his duties generally, and in the art of artificial fish-culture specially, as circumstances would then admit of.

The intention previously formed of returning to the Restigouche and giving some practical information to Mr. Mowat in artificial impregnation, had to be abandoned, the month of October having now set in, and my presence being immediately required in Ontario.

I cannot close my remarks without alluding to the services rendered me by Mr. John Hogan, the local officer in charge of the north-west Miramichi, during the whole of my operations on that river. I may also with every confidence add, that from the fearless and zealous manner in which the very laborious duty of protecting that branch of the Miramichi has been performed by him, is to be attributed to the wonderfully increased numbers of salmon which now frequent it. Just in closing this report, my attention has been drawn to some difficulties which have arisen at the Miramichi fish-breeding house. It would appear that my misgivings as to the non-completion of the breeding room before winter set in, from the want of more energy on the part of the contractor have been realized. In a despatch from your Department, I notice that the contractors are asking for an extension of time, and advance in price of contract. The original contract entered into allows of no demand of this nature; there may be, however, extenuating circumstances, admitting of consideration when thoroughly represented. I am led to believe that through the contractor's neglect in not enclosing and completing the hatching room in proper time, the breeding troughs had to be laid upon the floor in a very rude manner, and that in consequence of their unfinished state, frost had entered the premises, and seriously injured the greater portion of the eggs. This loss is much to be regretted, especially after the great efforts I made to prevent it. Such an occurrence, however, cannot possibly occur again. The trials experienced during the winter months in that cold region, and the general knowledge which must be gained by the person in charge, in relation to all matters appertaining to fish culture at the Miramichi establishment during the year, will warrant successful and satisfactory results hereafter.

I have the honor to be,
Your obedient servant,
SAMUEL WILMOT

Newcastle, Ont.,
31st December, 1873.

To the Honorable A. J. SMITH,
Minister of Marine and Fisheries,
Ottawa.

NEWCASTLE, MIRAMICHI, N. B., 31st December, 1873.

SIR,—I have the honor herewith to submit to your Department, a report on the progress of the work in connection with the Miramichi fish-breeding establishment, which has been placed under my charge. On my arrival here I found that a contract had been given for the erection of the breeding house, to Donald and William McLeod, and that work had been commenced; a portion of the necessary ponds and other appliances had also been constructed: to the completion of the latter I immediately turned my attention, with the view to prepare for the reception of salmon ova this season. Owing to the season being so far advanced before the work commenced, and the fall freshets coming on very early, I experienced a great deal of trouble and delay, and found it impossible with the limited amount of assistance I was able to procure, to advance the work to the necessary stage of completion required to withstand the severity of the winter; consequently, I have been subject to considerable expense and trouble, since the frost set in. Through arrangements made by Mr. Samuel Wilmot, I obtained three hundred salmon, seventy-five of

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which were grilse; of the remainder males and females were about equally divided; these were placed in a large pond prepared for their reception. For the more convenient catching and handling of the fish, I erected a small building over a portion of the stream and immediately at the head of the pond; this building answers the purpose of a reception house and manipulating room, and is so constructed that the parent fish can easily enter it from the pond, but cannot get back; it is also divided into compartments, for the proper distribution and classification of the fish, thereby enabling the operator while manipulating to obtain a parent fish of either sex without difficulty. The next morning after the completion of this building, I had the satisfaction of finding that over thirty salmon had entered during the night, in all about one hundred and fifty found their way into the house. From these I obtained 300,000 eggs, which were deposited in some hatching troughs, temporarily arranged for their reception. Not having the necessary appliances completed in time for the accommodation of a larger quantity, I was unable to procure a further supply, as the fish remaining in the pond had spawned in the rapid water at its head, where I have no doubt they will come to maturity, being well protected. Owing to the very unfavorable circumstances under which the eggs were obtained, and the unavoidable handling and improper usage to which they have been subjected, consequent upon the incomplete state of the establishment at spawning season, a large number of them were injured and have since died to such an extent that my stock is now reduced to about 100,000; the greater part of these are begining to show signs of life, and if no unforeseen causes arise, I hope to succeed in hatching a large proportion of them. I am satisfied that the loss is chiefly attributable to the above causes, still I think the new hatching troughs and new zinc, upon which I was obliged to lay the eggs, and also the dirty state of the water caused by the frequent thaws during the last six weeks, will render it necessary, for the successful and economical working of this establishment, to construct two ponds next season, in addition to those already built, and to enlarge the reception house. The building is now completed, with the exception of the plastering and painting, and presents a very handsome appearance; and I would suggest that a sum of money be granted for the enclosing and laying out the grounds, in keeping with the appearance of the building. As I will have ample time during the coming summer to fully complete the work, and prepare for a much larger number of spawn, I hope to be able to render a more favorable report upon the operations in connection with this establishment for the next year.

I have the honor to be, Sir,
Your most obedient servant,
A. B. WILMOT.

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APPENDIX M.

REPORT ON THE FISH BREEDING OPERATIONS AT MOISIE RIVER, FOR THE SEASON OF 1873.

QUEBEC, 31st Dec., 1873.

To the Hon.
The Minister of Marine and Fisheries
Ottawa.

SIR,—I have the honor to submit my report upon the artificial propagation of salmon at Moisie River for the past season, the previous one having brought my operation down to November, 1872.

Having been informed by the chief of the Indians that about forty-five miles from the first forks on the east branch of the Moisie, and ninety miles from the mouth of the river, there were some spawning beds where the salmon every year at spawning time were to be found in immense numbers, I thought it advisable about the end of July to dispatch my clerk, Mr. Andrew Fraser, to visit the locality, with a couple of Indians to show him the spawning beds, so that he could report as to their accessibility should we find it necessary in the fall to go so high for ova. He left the post at the mouth of the river on the 23rd of July, the weather previously having been wet and the river slightly in flood. He reached the forks the next evening. While on his way up he saw numbers of salmon jumping. On the 25th he proceeded up the east branch, and about three or four miles up he had to make a portage of half a mile to pass the rapids or low falls, at the foot of which the salmon were congregated in immense numbers—he said he could compare them to nothing but caplin on the sea shore, the water at the foot of the falls actually boiling with them. The river here runs over a granite ledge of rock like a steep incline; when the water is low the fall would be twelve to fifteen feet high, but when in flood it gorges at the foot of the falls and rises considerably, giving the salmon a chance to get over them. On the incline referred to on the north side there are several basins in the rock which are supplied with water when the river is in flood—the salmon take advantage of these and rest in them occasionally on their way up.

When Mr. Fraser passed he reckoned about one hundred salmon in one of them; a little higher in another basin he saw nearly as many.

Taking the canoe at the head of the falls he continued on for a day and a half, which took him over the places spoken of by the Indians. He reported that the last day's journey the river was difficult of ascent, and that the spawning beds, though of great extent, were not adapted for seining, as they were full of boulders and the banks steep. By the time he got back to the falls the water in the river had fallen considerably, and there was very little in the basins, yet there was several salmon in them half out of water; these he pushed with a stick back into the river. He arrived at the post without anything else worth noticing having occurred.

About the end of September I had provisions carried to the upper end of the portage to be in readiness when the expedition should start for a supply of ova. As several of the canoemen who had been previously employed had left the Moisie, and the native Indians had all gone to the interior, I engaged two Indians in Quebec and took them down with me to the Moisie. We left Quebec on Saturday, the 11th October, by the steamer *M. Stevenson*, and arrived at Moisie on the 13th. On the morning of the 14th we left the post and got to the upper end of the portage the same evening, reaching the

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forks early in the afternoon of the 15th—the weather being very fine. Near the forks, and at the mouth of the east branch, we saw great numbers of salmon. Next day, the 16th, was dark and rainy; we proceeded up the east branch about a mile and a half, and during that distance immense numbers of salmon were seen jumping; and on the spawning beds in a very short time we took a number of salmon which were in fine order for our purpose. The ova and milt being ripe, we filled two large tin pails with fecundated eggs; besides these we took several silvery bright salmon, evidently fresh from the sea, of about 8 to 12 pounds weight, which had only been a short time in the river as they had not begun to get discolored by the fresh water. This fresh run of fish must have come into the river the end of September or beginning of October, and must have been in great numbers, as we were not fishing in the most likely place to catch fish in their state but on the spawning beds to get ripe ova and milt. We gave up fishing early in the day as the men were drenched with sleet and snow, and were very cold, or we could easily have got our supply of ova that day, as salmon were swarming all around. During the night the weather had changed to severe frost. On the morning of the 17th we took a number more salmon and filled a tin pail one-third with eggs, making in all about eight and a half gallons of eggs secured. I considered this quantity was sufficient to fill the rills at the salmon house.

We left the forks the same day at noon, and got down the river as far as the upper end of the portage the same evening. Next day we made the portage; but, unfortunately, in carrying the eggs through, one of the Indians stumbled and addled several thousand. We got down to the salmon house in the afternoon in time to place the eggs on the perforated zinc trays provided for their reception as recommended by Mr. Wilmot. I estimate that there are 150,000 eggs put down in good order. It is worthy of remark that several salmon were seen in October this year in the small stream of the salmon house.

We had to remain at the mouth of the river for ten days waiting the return of the steamer to get back to Quebec, where we arrived on the 4th of November, having been twenty-four days on the trip. The eggs were left in charge of two keepers at the salmon house, where they reside for the winter, and they reported to me under date 4th January that the eggs were healthy and that they had only taken out 8,000 bad ones to that date.

I remain, Sir,

Yours respectfully,

JOHN HOLLIDAY.

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APPENDIX N.

REPORT OF W. H. VENNING, INSPECTOR OF FISHERIES FOR NOVA SCOTIA AND NEW BRUNSWICK.

Honorable A. J. Smith,
Minister Marine and Fisheries.

Sir,—In presenting my report for the year 1873, I am happy to state that the improvement in the fisheries, as shown by increased annual yield which has marked every year since the passage and enforcement of the Fisheries Act in 1868, is fully borne out by the returns of the past season. This cheering result is undoubtedly due to the wise system of protection which the provisions of that Act supply, and there is now no room to doubt that this source of our wealth is fast recovering from the depression under which it suffered previous to Confederation. From almost every county in both Provinces the local officers give very cheering reports of the steady improvement evident in their respective districts, not only in the fisheries, but also in the state of public opinion, upon which the effective carrying out of the several provisions of the Fisheries Act so largely depends. Fishermen now realize the fact that strict observance of the law is conducive to their own interests, hence there is less difficulty in enforcing its provisions, and the unpleasant duties of fishery officers are gradually becoming less onerous. Several measures are yet necessary to protect and develope certain branches of the fishing industry in both Provinces; these will be more particularly alluded to at the close of this Report and I respectfully ask for my suggestions your favorable consideration.

Restigouche County.—The returns from this county show a very large increase. This is more marked in the yield of the salmon fisheries, being more than double that of last and previous years. The main river and all its tributaries teemed with salmon and trout during the past season, while cod and mackerel fishing in the Bay has been very productive. Overseer Ferguson expresses his conviction that this improvement is mainly attributable to the enforcement of the *Fisheries Act*, especially with regard to the weekly close time. The Indians, who formerly did great damage by the destructive practice of spearing, have been provided with nets for lawful fishing and no spearing is now allowed on the river or its tributaries. Lobster fishing and canning has been actively carried on during the season, and this new branch of business is rapidly assuming large proportions. The regulation passed last summer for the protection of this fishery was much needed and will, I trust, prevent in this county the over-fishing which has done so much injury in other localities. I have repeatedly urged the necessity of removing all nets from the islands, middle lands and shoals at the head of the tide in the main river, and I would again call attention to the importance of this measure as I am convinced the continued improvement of the fisheries imperatively demands its adoption.

Gloucester County.—The same cheering results mark the return of the salmon fishery from this county; it has been very productive and largely in excess of previous years, although fewer fishermen were engaged in it, many finding profitable employment on the railway works. Overseer Hickson reports that Nepissiguit River was well stocked with salmon during the whole season, and the angling was better than ever before known. The Tete-a-gauche was also well stocked, and there is now no doubt that this river will soon be as productive as it formerly was. In the lower part of the county the catch of alewives and herring has been less than that of last year, while the bass fishery has improved. The cod-fishery was very good up to the August gale, but for the remainder of the season continued boisterous weather seriously affected it, and the catch is below average.

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Codfish, mackerel and herring abound in the lower part of this county, but the fisheries are not pursued with sufficient energy and enterprise to make them profitable. Most of the residents have farms, and fish only when the water is smooth and the fish close in shore. With proper boats and more attention to fishing, they would take large quantities.

Northumberland County.—The returns from this county show a very considerable increase over those of last year, and the reports of the local officers are most encouraging. The increase has been principally in the salmon and bass fishery, but the yield of shad and alewives has also been better. The catch of salmon in the North-West and South-West Rivers, and their tributaries, as well as in the bay, has been unusually large, while the average weight of the fish has increased. A fine run of fish, late in the season after the nets had been taken up, ascended to the spawning grounds and there is every reason to expect that the improvement will be permanent. Overseer Hegan reports that in his districts the catch has been much larger than that of last year. He attributes the improvement in the bass fishery to the beneficial effects of the regulation which provided for their protection during the spawning months and to the prohibition of seining, a mode of capture most destructive to the young fish. As was anticipated, the average size of the fish is fast increasing, and there is now every prospect of this valuable fishery improving yearly. Overseer Cameron reports that in the upper waters of the South-West River, which for years had been almost deserted, there was a fine run of fish all summer, greatly in excess of any previous year since the law came into operation. The success of anglers who visited the river last season was consequently very gratifying and encouraging: it proves that a very good stock of breeding fish had returned to their old spawning places on its upper waters. The cod and herring fishing in the bay and on the coasts was not so productive, owing in a great measure to the destructive storm in August, which destroyed a large number of boats at Escuminac. The lobster fishery yielded an average return, but this also suffered from the stormy weather during the latter part of the season. Complaints are still made of excessive netting pursued at the islands in the mouth of the river, and I would again urge that some suitable regulations be made to curtail this cause of complaint.

Kent County.—The returns from this county are considerably in excess of those of last and previous years, and the reports of the local overseers are highly encouraging. The ice was very late in leaving the shores, and this interfered seriously with the salmon fishery, for while the run was unusually great, the nets could not be set and consequently the catch was less than it would have been under more favorable circumstances. The yield of alewives has been good, and had the fishermen been prepared with salt and barrels to cure them, a very large catch might have been secured. Mackerel fishing has not been prosecuted as extensively as in former years, although the fish were plentiful and of good quality. The fishermen now confine their attention more to catching lobsters, which is more profitable. This cause has also led to a less energetic pursuit of the cod-fishery, which was further curtailed by the storm of August, which drove many boats ashore and rendered them useless for the remainder of the season. This also prevented them from pursuing the fishery for fall herring, which were very plentiful, and would have yielded large returns. Smelts are now being caught in larger quantities than ever before, and preparations are being made for extensively shipping these and fresh bass to the United States, where they command a ready sale and good prices. The oyster-beds do not improve and until some more effective measures are adopted to protect and foster them, the few remaining ones will soon be entirely exhausted. During the first part of the season large quantities of lobsters were caught, but during the storm of August the high tides did serious damage to the buildings in which the business of preserving them was carried on, and caused the premature closing of the season's operations. There are now six establishments engaged in the business, and a new one is being erected for next season. This business gives employment to a large number of persons, and is becoming of great importance to the county. The regulation passed last season for the protection of this valuable fishery was much needed to prevent its destruction, and I trust that it will not be altered without the most careful consideration.

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Westmorland County.—The fish caught in this county are mostly for home consumption, and no very accurate returns of the catch can be obtained. The shad fishing in Dorchester Bay and Peticodiac River has not been so good as usual; the coldness of the spring is the cause assigned by the local officer for this falling off. The Shediac River is improving, and I have still strong hopes that salmon, shad and gaspereaux will abound in its waters as plentifully as they did previously to the erection of the Gilbert Dam, which, since the passage was made through it, offers no obstacle to their ascent. The once extensive oyster beds in Shediac harbor, which might yet be made a source of wealth, are yearly becoming of smaller value, and unless a more enlightened policy is adopted, a few years more will witness the total destruction of this delicious shell-fish.

Albert County.—The returns from this county show an increase over those of last year, which is due principally to an improved catch of line fish and salmon. The take of shad, although somewhat above that of last year, has not been equal to that of previous years, owing probably to a cold spring. The fishery in this county is pursued principally by farmers, who devote only a portion of their time to the business.

Victoria County.—The overseer's report from this county says that salmon have not been so plentiful in the Tobique for the previous fifteen years, as they were last season, and the same remark applies to that part of the St. John River flowing through this county. The Tobique is the principal spawning place of salmon that ascend the main river, and overseer McCluskey describes the settlers as most determined poachers, who take every opportunity of violating the law. There are but three wardens on the whole river, and they are stationed so far apart that it is quite impossible for them to do more than guard their immediate neighbourhood. I would respectfully urge that at least three more wardens be appointed to enforce the law more effectually. The protection of the spawning fish in the river is of the greatest importance, and I cannot too urgently call attention to the subject.

Carleton County.—In this county the report and returns show a decided improvement over those of last year, both in salmon and shad, but the great quantity of logs running in the river during the whole season, prevented many nets being set, which made the catch smaller than it otherwise would have been. Overseer Harrison reports that in consequence of this interference during the best fishing months, he had much difficulty in enforcing the law, as there was a general disposition to set nets after the close season had commenced.

York County.—The catch in this county exceeds that of last year, and the returns show only a portion of the whole, as it is difficult to get accurate returns where so many fish are caught for family use. Overseer Macpherson states that the opinion is generally expressed that the catch of salmon and shad, during the past season, has been at least 50 per cent. over any previous season during the last 20 years, and he attributes this increase to the vigorous enforcement of the law since it came into force. Spearing and drifting are now almost unknown, where formerly these destructive practices were openly pursued.

Sunbury and Queen's.—In these counties the fishing was more productive last season than for many previous years; all kinds of fish were more plentiful, and those engaged in their capture were well repaid for their labor. The fish are wholly used in home consumption, and I have no doubt that the returns fall far short of the quantities actually caught. The law has been generally observed, and but few complaints of illegal fishing have been made.

King's County.—The returns from this county show a large increase over those of last year, and the overseers report a great improvement in the rivers and streams. In the Kennebecasis and its tributaries this improvement is especially marked, and large numbers of salmon ascended to their spawning beds. There is a better disposition on the part of the people to observe the law, and no complaints of illegal fishing have been made.

St. John County.—The returns show about an average catch in this county. While salmon and alewives were more plentiful than last year, shad and line fish show a falling

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off, owing probably to rough and unfavorable weather in the bay, during much of the fishing season. The Bye-Law of the Common Council, prohibiting Sunday fishing, was generally enforced last season, which will account for the greater numbers of fish caught in the upper counties. The appointment of an intelligent and active officer at St. Martin's will, I trust, lead to a better observance of the law in that district. A warden at Salmon River is much needed, and the appointment of a proper person, who would enforce the law against sawdust and mill rubbish, would be attended by the best results.

Charlotte County.—From this county the returns and reports of the local overseers are very cheering. Overseer Curran, of the St. Croix district, continues to give most favorable accounts of the re-stocking of St. Croix River and its tributaries. He says—"The increase of all kinds of fish is such as to satisfy the most incredulous that it can be re-stocked. The increase of salmon is remarkable. Boys fishing for trout and pickerel have caught several young salmon, in localities where they have not been known since the dams were erected. Large numbers have been seen in the Mohannes stream this fall, and full grown salmon have been caught at Vanceboro. A new fish-way was built there this summer, which, with some slight alteration, will answer every purpose intended. The other fish-ways on the river have been kept in good order, and the people are now taking a lively interest in giving the fish a chance to ascend. Alewives and smelts were more numerous than they have been for many years. At Salmon Falls, on the main river, alewives were very plentiful, and could be taken in quantities with dip nets. A fish-way is much needed here to enable the fish to get up the river. On the Dennis River alewives were more plentiful than ever known before, and the people of the town and surrounding country had abundance of them in the two days allowed for fishing. They passed to the upper lakes through the fish-way at Moore's mills in great quantities. Mr. Moore has always taken a lively interest in the preservation of the fish-way, and in protecting the fish while passing up. Cod, pollock and haddock were plentiful in the river and Oak Bay during the summer, and large quantities of herring were also in the river. Mr. Albert Young has planted a large quantity of oysters in Oak Bay, as an experiment, with what success remains to be seen. The lobster fishery is carried on to such an extent that there will be none left in a short time, unless some restriction is placed upon this excessive fishing. There is no doubt that if sawdust and mill rubbish could be kept out of the river, fish would be as plentiful in the St. Croix as they were in former years."

Overseer Andrews, of the Inner Bay district says—"You will perceive by my returns that fishermen in my district have done a fair business during the past year, having realized nearly $30,000 for their labor. In addition to this there were about 45 vessels from different parts of the Bay of Fundy, netting herring for two and a half months in the winter and spring, averaging about $1,000, making $45,000 and $7,414 taken by the fishermen residing in this district, amounting in the aggregate to $52,414 for herring alone, taken in the inner bay of Passamaquoddy. The fishermen frequenting the bay have been in the habit of doing much as they chose, paying no regard to the law. Our resident fishermen have been more scrupulous, in many cases to their own loss, for I have frequently seen eight or ten sail of American bankers surrounded by quite a fleet of fishing boats supplying them with bait taken on the Sabbath; our local fishermen complain bitterly of this, and reflect on me for not enforcing the law, but I have been powerless to prevent it, not having a boat suitable for the work. But next season I am determined to enforce the law, and will provide myself with a craft fitted for the service."

Overseer Best, of Beaver Harbor and Lepreaux district, reports that "herring fishing has been remarkably good this season, in fact better than ever known in any previous year. The principal fishing was done from the 1st January to the 1st March, when fish were sold in a frozen state to American traders. After the latter date, herring still continued plentiful, but fishing was not pursued during the summer, as there was no demand in the market. I think I am safe in saying that the quantity of herring that frequent our shores is increasing every year, which I attribute, in a great measure, if not solely, to the protection of the spawning ground at Grand Manan. Cod and

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haddock have not been so plentiful the last year, but hake are increasing, and have been very abundant."

Overseer McLaughlin, of Grand Manan District, gives a very cheering account of last year's operations. He says, "in comparing the returns of last season with those of 1872, I find a slight falling off in the catch of some kinds of fish, while there is a large increase in that of herrings, halibut, haddock and lobsters. The cash value of this year's labor amounts to $123,748 more than that of last year, making a grand total of $301,878, an amount equalling, if not surpassing, that of the most prosperous year this Island has ever known. The falling off alluded to, is owing to the fact that more than one half of the fishermen were engaged exclusively in the lobster fishery, the catch of which exceeded that of last year by 334,840 cans, worth in market $33,710, nearly one half the amount of the proceeds of all the fisheries of my district last season. You will notice by the returns that but few vessels are owned in my district, while the fleet of boats is large; most of them may be rated as first-class, and are superior sea-going craft. In these boats our fishermen cross over to the mainland of New Brunswick, Nova Scotia, and the State of Maine, at all seasons of the year, with but few accidents happening. Our fishermen have manifested more of a law-abiding spirit than in former years, which has saved them from fines and forfeitures. This change for the better is owing, in a great measure, to the good example and influence of the leading men in all parts of my district, who, I am happy to say, give me their moral assistance."

The following is the Report of W. H. Rogers, Esq., the Fishery Officer for the Province of Nova Scotia:—

Halifax County.—In compliance with instructions received from the Department, I last season had the outlet from the lakes at the head of Ketch Harbor opened, and there cannot be a doubt that this work will, in a few years, add largely to the quantity of fish taken in that locality, as the fishermen along the coast, for many miles north and south of Ketch Harbor, depend upon the supply of alewives taken in this stream for bait. I have seen many other small streams along the coast of this Province which may be greatly improved by a small outlay in removing obstructions to the passage of alewives to the spawning grounds. The abundance of these fish in our estuaries always attracts deep sea fishes, especially cod and mackerel. While in Halifax County, I visited the most important rivers and streams. At Musquodoboit, I found that since my last visit a mill dam had been built entirely across one of the finest salmon and trout streams in the Province, just at the head of tide water. The proprietors, however, have made a passage for fish around one end of the dam, up which, according to the testimony of many most respectable inhabitants on the river, both salmon and trout freely ascend; but when once a river is dammed, it is impossible to make it as good a fish river as it was before, and I am sorry to say that this dam has almost destroyed one of the best resorts for sportsmen, by backing the waters up stream for some miles, and converting a fine running stream into a lake or pond of still water, to the great annoyance of anglers.

I also found a new dam across Salmon River, and left directions and plans for the construction of a pass, the owners assuring me that they should be faithfully carried out.

On Indian River, about three miles above the harbor, I found a new dam across the stream without even an attempt on the part of the owners to let the fish pass. I gave the proprietors a reasonable time to set matters right, and on my return from the Western Counties I found one of the best fish passes in the Dominion, and fish passing up without any difficulty, as I find to be the case in every instance in which my instructions are properly carried out. The ladder is of wood, 130 feet in length; it has a slope of one foot in nine, and must have cost not less that $400. It is also finely located in the dam, which is a matter of great importance, and often one of considerable difficulty. My experience convinces me that all fish ladders should be placed and constructed under the direct supervision of an experienced person, for it is rarely one comes in contact with a man so practical and possessed of such good judgment as Mr. Brown, the foreman of this mill.

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There is another dam on this stream, in which the proprietors have promised to place a ladder similar to that just described.

On the Ingram River, there is a pass around one end of the dam, which is sufficient to allow the passage of fish, though sportsmen from Halifax say none ever pass. Next season I shall endeavour to be there when fish are in the river, and see for myself, for I find it impossible to rely on any statements made by contesting parties. I have found mill owners ready to obey the law when they receive instruction as to what is required of them. Many of them have put in ladders at considerable expense from improper models, and they naturally complain when they are ordered to do the work over again at their own expense.

Lunenburg County.—On the Lahave River, at Bridgewater, in Lunenburg County, I found the ladder, constructed under my directions two years since, (and which then allowed the fish to pass freely), completely out of repair, and Mr. Davidson had done nothing to the second dam above. My presence and my expressed determination to enforce the law, led to immediate action, and I have now to report the Lahave clear for the passage of fish through all the dams at Bridgewater. It will, however, be necessary to visit the place next spring, when the fish are in the river, to see that all are in order, for I find that when the Provincial officer is not expected, things necessary to be done are neglected.

Queen's County.—In Queen's County I found the fish ladders all right, but a pass in the Medway dam did not appear to me to be sufficient. I gave the necessary instructions to Overseer Sellen to have alterations made, which, I have no doubt, this excellent officer has seen carried out.

Shelburne County.—In Shelburne I found the ladders in a very bad state, so much so that I do not think fish could pass any of them. I gave the necessary instructions, and the work was in course of completion, but the August storm so swelled the streams that no further progress could be made until the water fell.

Yarmouth County.—In Yarmouth there is but one dam which blocks a river of much importance, and this is across the Tusket River at Carleton, about twenty miles up: the ladder was defective and the fish could not ascend. The owners promised to carry out my directions, and under the vigilance of Overseer Crosby, I have no doubt they have made the ladder passable.

Hants, King's and Annapolis Counties.—I visited the dams in these Counties and in some I found good passes, while in others the ladders are defective, but the water was too high to admit of anything being done until next season.

Pictou County.—In Pictou County the ladders are all defective and need a thorough renovating, but it was too late in the season to admit of this being done. On the whole, I found the streams in a very unsatisfactory state. Poaching was much practiced, and the local officers not as vigilant to suppress it as they should be, showing the necessity of more frequent supervision by the Provincial officer. The fisheries of the Province are too extensive and valuable to be neglected, and the expenditure of a few hundred dollars, to enable the local officer to exercise the necessary supervision, would soon render the Inland fisheries doubly valuable.

It is very gratifying to me to be able to state that the reports and returns show that our fisheries are improving year by year. This improvement is very marked in the salmon fishery, the returns showing a large increase over those of last year, giving the best possible evidence of the advantages of protecting our rivers. The value of the increase in this species alone is greater than the whole amount spent upon the Inland fisheries of the Province since the Department was organized, to say nothing at all of the large increase in other kind of fish. But, notwithstanding those encouraging results of past efforts, there is still much to be done to give migratory fishes proper protection, and the results already achieved ought to stimulate all parties to still greater efforts, and ought to induce Parliament to grant sufficient funds to enable the Department to do this work thoroughly.

Cumberland County.—Overseer Jas. King reports that in all the rivers in this district the fish have been of a better quality than last year, but in consequence of fewer numbers

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having engaged in fishing, the quantity is somewhat less. Shad were much improved in quality, owing probably to the fishing grounds being better protected from pollution, "gurry" and dead animals. On this point the law has been effectually enforced. The catch of alewives has been better than last year on account of the obstructions on streams having been all removed (with but one exception), which afforded the fish a clear passage to the lakes, where they appeared in larger quantities than for many years. Salmon did not come in-shore in the early part of the season, but later they came into the rivers in much larger quantities than usual, and were more plentiful than for the last twenty years. "Poaching is not practiced to any extent in my district, the people being desirous of having the law carried out for their own benefit. The shore fishery has not been as extensively pursued as formerly, ship-building having given employment to many who used to engage in fishing." Overseer Patton reports the yield of salmon very much larger than that of the last and preceding years, while the catch of alewives and herrings has been less. Mackerel were more plentiful, and large quantities might have been taken had propor preparations been made.

Colchester County.—Overseer Wm. Blair reports that the salmon are increasing in all the rivers in this district, and that there is much less poaching than formerly. Lower Stewiacke is still without a Warden, where one is much needed. Overseer Davison reports an increase in the yield of both salmon and shad over that of last year, and describes the quality of the shad as better.

King's County.—Adolphus Bishop, the newly appointed Overseer of river fisheries for this county, reports as follows:—"I have visited the head-waters of Annapolis River, and find there are two branches which extend into my district, called north and south branches. Their united length is from twenty to thirty miles, and for this whole extent there is but one Warden. He can attend to only one branch, consequently the remaining one, in which salmon are plentiful, has been unprotected, and the fish have been caught in every possible way. I would therefore recommend that a Warden be appointed for this river, and I think it necessary that another be appointed on the Gaspereau River in the vicinity of White Rock Mills, as the fish ladder at this dam should be watched night and day during the time fish are ascending. I would also earnestly recommend that no drift nets for alewives be allowed in the mouth of the river, as it is too narrow to allow the fish a chance to pass while drifting is allowed. I consider this measure necessary, as the fish have been steadily decreasing for some years in consequence of over fishing. Salmon have been more plentiful this year than usual, and the catch has far exceeded that of last year, this fish being better able to pass the barriers. I have spared no pains to clear the river of obstructions, which have for several years interfered with the ascent of fish." Overseer Starr reports a falling off in the shad fishery, but the quality of those caught was much improved. All other fisheries have been good, especially that for salmon, which gives good reason to hope that they will soon repay four-fold all the trouble and expense bestowed upon them. He reports a greatly improved state of feeling among the fishermen, as regards observance of the law, as well as a more intelligent conception of their duties and privileges both as individuals and communities.

Annapolis County.—Overseer Carty reports that the catch of salmon has exceeded that of any year for the last ten, and that all other kinds of fish have given an average yield. The fall fisheries exceeded those of last year.

Digby County.—The yield in this county has been largely in excess of last year, although mackerel fishing at St. Mary's Bay has been almost a failure. The herring and shad fisheries at the same place have declined, but the yield of salmon has increased. As all the rivers in this county, except Salmon River, are obstructed by falls over which fish cannot pass, no material change can be reported in them. There are large numbers of trout in them all, and those emptying into St. Mary's Bay are visited by large quantities of smelts and frost fish. Salmon River shows signs of steady improvement, notwithstanding the poaching of half-breeds and Indians that infest this locality.

Yarmouth County.—Overseer Crosby reports the yield of salmon to be much larger than heretofore, and that of alewives somewhat larger than last year, although the increase

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is not as great as was anticipated. The total returns show a large increase over those for 1872. The fish ladders in this county will require some alterations to make them effective, especially that on the Carleton branch of Tusket River. The main river is now free from obstructions of any kind, and the fish have free access to the extensive lakes on its upper waters.

Shelburne County.—Overseer Muir reports that the fisheries of this county have been more productive this season than he has ever known them since the law came into operation. The increase in the take of salmon was especially large, and the vessels engaged in deep sea fishing were unusually successful.

Queen's County.—Overseer Sellon reports that salmon have largely increased, not only in numbers but in size, while alewives continue to grow more plentiful every season. The lobster fishery is being more extensively pursued, and is a profitable business.

Lunenburg County.—From this county the returns show a large increase over those of last year, and the prices obtained were much better. Herring, which last year could scarcely find a market at remunerative prices, are now worth from $3 50 to $4 cash. Some of the first cargoes to Boston brought $5 50 and $6 per barrel. Codfish, scale-fish, and mackerel, besides being in excess of last year's catch, bring higher prices. Lobsters show an increase of over $40,000. The Labrador and North Bay vessels generally had good fares of codfish, although they were some three weeks later than usual in procuring their cargoes. In consequence of this detention many of them were caught in the gale of 24th and 25th August; some of them had decks swept of boats and oil, and others received more or less damage. The saddest result of the gale was the total loss of five vessels with their cargoes; the crews of four were all lost, numbering over 60 persons. Four of these vessels were from Labrador, with full loads, the other was from home, bound to the North Bay. They all belonged to New Dublin, in the western part of the county, and the heavy visitation is keenly felt.

Halifax County.—Overseer Fitzgerald reports a large increase in the shore fisheries of this county, and much improvement in the river fisheries. The catch of cod, mackerel and herring was about an average, but the prices obtained were much better. The catch of salmon considerably exceeded that of last year.

Pictou County.—The returns from this county show about an average yield. While the herring fishery was not as good as last year, that of salmon was rather better.

Guysborough County.—The returns from this county show a falling off in the catch compared with those of last year. The rivers have been well stocked with salmon, the increased numbers of which offered good evidence of the beneficial results of past protection and the importance of its continuance The lobster fishery has largely increased. There are now five canning establishments, and two others are being prepared for next season. The enforcement of the present regulation, or some other equally stringent one, has become necessary for the protection of this shell-fish.

Antigonish County.—Overseer McDonald reports that the quantity of salmon taken this year is much larger than for many previous years, and the prospects for the future is very encouraging, as large numbers ascended to their spawning beds in all the rivers. If the protective provisions of the law are properly enforced, the salmon fisheries of this county will, in a few years, become very productive. The herring fishery was a partial failure, owing to the great storm of August. Mackerel were plentiful, but for some years past have not been pursued as extensively as formerly, owing to a low market. Preparations are being made by many of the fishermen for more extensive operations next season with every prospect of success.

Richmond County.—The returns of this county do not show more than an average result. While the salmon fishery was much improved and yielded larger returns, mackerel, herring and haddock, show a decrease, the cause of which is not very clearly ascertained.

Victoria County.—In this county the fisheries were prosecuted under more than usual difficulties, from unfavorable weather and loss of gear, in consequence of which they have not been so productive as in former years.

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Cape Breton County.—From this county the reports are not favorable, although the returns are not materially different from those of last year. Overseer Quinan reports that salmon were more abundant, but mackerel and herring show a decrease. The high rate of wages offered at the mines drew many from their usual fishing avocations, and the great storm of August caused much damage and loss to the fishermen. Boats were injured, stages carried away, nets lost, and in many cases the whole produce of the spring and summer fishing was swept away. As an offset to these misfortunes, much better prices were obtained, and are now ruling, which justify the hope that the fishermen will soon recover from the unusual disaster of the season. American vessels in considerable numbers made their appearance for the first time in many years, and are reported to have made a very good catch.

Inverness County.—The catch of codfish and herrings has not been so great as last year, but mackerel were more plentiful. Salmon have been more numerous this year, and large numbers have been taken. Over a thousand fish, averaging about 15 pounds, were caught by anglers in the Margaree River. Alewives were plentiful on the South-west River. The eel fishery of lake Ainslie continues to improve, and trout are very plentiful. The lobster fishery is becoming important in this county; there are now two canning establishments, and another is to be started in the spring.

Recommendations.—Before closing this report, I would respectfully beg to call your attention to several points of vital importance to the full development and proper protection of our invaluable fisheries. In former reports to your predecessor in office I have urged attention to these matters, and though their importance was fully admitted, and measures were taken by him to have some of my recommendations carried into effect, I regret to say that local prejudices and political influence have hitherto operated to prevent their adoption. Under a new administration I cannot but indulge the hope that these influences will have less weight, and that such measures as are clearly for the benefit of this important source of national wealth will be adopted and enforced despite the opposition of private interests. In this hope I now beg to present for your consideration the suggestions urged in my last annual report, with such additional observations as the experience of last year have led me to make.

The restoration of the oyster beds in New Brunswick, and the adoption of means by which the production of this shell-fish may be increased, both in New Brunswick and Nova Scotia, by protecting the existing beds and planting new ones in localities favorable to their growth, are subjects of vital importance, the practical consideration of which has been so long delayed that almost all the well-known and once profitable beds are now nearly exhausted, and are every year becoming less valuable.

These remarks apply equally to the oyster beds of Prince Edward Island, which are dwindling away, and which must in a short time share the fate of those in our own Province. The close time provided by law has been rigidly enforced, but excessive and indiscriminate raking of the same beds during the whole open season, year after year, not only prevents any increase, but must necessarily, steadily and surely exhaust them, and if some more effectual means are not adopted, every known bed in the Province will soon be destroyed. The simplest, wisest, and most effective means of increasing the production of oysters in New Brunswick and Nova Scotia, is to lease all localities favorable to their growth, (whether old beds exist there or not,) on such terms as will induce practical men to invest capital in their cultivation. This is the means adopted in other countries, and no other will, in my opinion, ever succeed to any extent; because so long as natural beds are common property, they will be raked just as often and as long as any oysters can be found by raking. The protection provided by the Fisheries Act has now been applied for four years, and the result is *nil*—in fact the beds are worse by just so many barrels as have been taken from them, until they are now not worth raking in most places where they were formerly abundant. These remarks apply more particularly to Shediac, Cocagne, Buctouche, Richibucto and Caraquet, but in other localities the same causes are fast producing the same results; for it is plain that no locality can stand this constant and un-

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remitting drain, by primitive and clumsy implements, the use of which destroys as many oysters as are raised by them. To have any fair chance to increase, the beds should be raked but once every three or four years, and in the intervals they should not be disturbed; but of course those who have no particular interest in them care only for the present, utterly regardless of the future. Next to leasing, the most effectual mode of securing an increase in existing beds, will be setting them apart for a number of years—say six or nine—and prohibiting all disturbance of them during that time. If one of these modes is not adopted, a few years will see the last of the very best oysters in the world. In this connection I may state, that the operations of Hon. A. Macfarlane, in Malagash Bay, in Colchester County, bid fair to be entirely successful. He has already planted new beds, and the young oysters are growing rapidly, proving beyond a doubt that oysters can be cultivated on our coasts with as much certainty as a crop of grain can be sown and gathered. Considering the growing demand for this delicious luxury, and the large markets that will be open for it when the Intercolonial Railroad is completed, it is a subject of great regret that our unrivalled facilities for oyster production to any extent should not at once be utilized, by the adoption of any and all means which will secure that result. At present the existing beds are a source of profit to no one, and there is no reasonable prospect, under the present system, of their ever becoming such; on the contrary, there is an absolute certainty that their total extinction is not far distant. I respectfully urge the consideration of this matter, and the adoption of some means by which this valuable resource may be preserved and developed.

In view of the rapidly increasing business done in preserving lobsters, and the large numbers of these shell-fish which are now yearly caught in both Provinces, I respectfully recommend that the lesson to be learned from the fate of our oyster beds be pondered in time, and means taken to prevent a like result in the case of the lobster. Heretofore this shell-fish has been so plentiful on some of our coasts, and until recently so little utilized, that no regulations have been made for the conduct of this fishery, consequently lobsters have been taken at all seasons, without much regard being paid to their quality or condition. Soft shelled lobsters, females with the eggs matured, and young ones, as small as half a pound in weight, have all been indiscriminately destroyed; the consequence is that in all localities where the fishery has been pursued for a few years, lobsters are not only scarcer, but the average weight has so decreased, that they are barely worth the labor necessary to prepare them for market. There are now about 47 canning establishments in Nova Scotia and New Brunswick, which use up from three to five tons each, per day, in the season lasting from four to six months, making the total annual destruction at least 30,000 tons. Every season the number of canning establishments is increasing, and of course the destruction will increase proportionately. As no supply, however large, can stand a ceaseless and increasing drain, unless means are taken to supply the waste, it is evident that this valuable fishery must soon become exhausted from over-fishing. A concerted movement is now being made by the Fish Commissioners of the New England States to procure some measure of protection for this shell-fish on their coasts, which has become almost exterminated from the same kind of indiscriminate fishing. On the coasts of Maine and Massachusetts it is now very difficult to obtain lobsters weighing over a pound and a half, and the yield is so small that those engaged in the canning business have removed their establishments to Nova Scotia and New Brunswick, where the same results are fast being produced in all localities where the business is largely pursued.

In July last, your predecessor in office procured the passage of an Order in Council which provided that soft-shelled lobsters, females with eggs attached, and all less than one and a half pounds weight should not be killed, but should be returned to the water. This measure of protection, which is so easily carried out, provided fishermen and proprietors of canning establishments will observe it, was, after careful enquiry, adopted in preference to a fixed close time, which could not be enforced without seriously interfering with the fishery in many localities. I regret to state that interested parties, to whom any conceivable measure of protection would be objectionable, are now seeking to have this Order

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in Council rescinded, and I most respectfully but earnestly urge that before consenting to this you will give the subject that careful consideration which its importance demands. In this connection I would beg to refer you to my special Report on this subject and to the letter of S. P. Reid, Esq., M.D., of Halifax, N. S., addressed to the Commissioner of Fisheries of your Department, and also to a letter addressed to the Fish Commissioners of the State of Maine, by Professor Spencer F. Baird of the Smithsonian Institute, United States Commissioner of Fish and Fisheries. The high attainments and well known ability of this gentleman entitle his statements and opinions to the greatest consideratoin.

From the number of applications that have been made for leases of rivers and fishing stations, especially in Nova Scotia, I am led to believe that there is a growing desire on the part of fishermen to have the system of leasing that now obtains in Quebec and Ontario introduced in the Maritime Provinces. Constantly recurring disputes between fishermen and land-owners, and between fishermen themselves, render this measure more necessary every year, and I am persuaded that it will eventually have to be adopted. In most cases the fishermen would rather pay a small rent to Government for his station, and be protected in his holding, than to be year after year disputing with his neighbour as to their respective claims. In numerous cases, both in Nova Scotia and New Brunswick, the owners of land exact and receive a consideration from fishermen for allowing them to set their nets in front of private property, while in fact the land-owner has no exclusive rights beyond his boundary, which is the shore. If rents are to be paid for these privileges, it is clear they should be paid to Government and not to land-owners. In the former case the rent paid by the fisherman would be returned to him in the shape of protecting and fostering his means of livelihood; in the latter he derives no benefit, for the rent goes into the pocket of one who has no legal right to demand it. The adoption of this measure would ensure the best results as regards enforcement of the law and regulations for the protection of the fisheries.

Numerous applications have also been made from Nova Scotia for leases of the upper waters of rivers for angling purposes, and I see no reason why, in most cases, these should not be granted. In Quebec and New Brunswick this is done with the best results, for the mere presence of anglers on a stream is a great protection against spearing and illegal netting, while the rents accruing would, to some extent, lessen the amount now drawn from the public treasury for the fisheries service. Until a uniform system is adopted in all the Provinces the full benefit of the Fishery Laws cannot be secured. Applications have also been made for the exclusive use of nearly deserted rivers for artificial breeding. Fish culture has been so successful, and has produced such beneficial results in other places, that I cannot but recommend every facility and encouragement to its introduction in our Provinces. The complete success of Mr. Wilmot's operations in Ontario, and of Mr. Holliday's on the Moisie, leads me to hope that similar establishments may be conducted in each of the Lower Provinces. The great benefits they would secure in re-stocking our rivers would more than counterbalance the outlay in their construction and maintenance.

Both in Nova Scotia and New Brunswick there are, in several good fish rivers, natural obstructions which prevent the ascent of fish. Overseer Morehouse reports that the Sissabou River in Digby County is impassable on account of an irregular fall. Overseer Jost reports an obstruction on Petite River, in Lunenburg; and Overseer Ballam one on Grand River, in Richmond County. If a small sum of money could be devoted to the removal of these obstructions, these rivers would become valuable nurseries for salmon and other fish. Several other rivers in Nova Scotia might be opened with advantage, if the means can be provided; the most important are those above named, and the Avon in Hants County.

The destruction of young shad and herrings by the use of brush weirs, is a subject for serious consideration. In former reports I have dwelt upon this matter at considerable

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length, and it is a question for your Department to decide, whether the public interest will not be best consulted by their total abolition, and by the fishing being confined entirely to the use of nets. There can be no question that the measure will greatly increase the quantity and quality of shad. Both in Nova Scotia and New Brunswick, the salmon, shad, herring and gaspereau fisheries are pursued by means of brush weirs to a large extent, and no doubt their abolition would for a time cause great inconvenience, and perhaps loss, and it would be sure to cause very great and general dissatisfaction in all localities where their use has become an established mode of fishing. But my own conviction is, that the destruction of young shad and herrings is operating injuriously on these fisheries, and the utmost vigilance of fishery officers is inadequate to its prevention.

There is much difficulty in enforcing the close time in the counties east of Halifax, arising from the want of an authoritative definition of what is meant by "salt water below low water mark." The tide ebbs and flows in some of the streams for many miles inland, and the right to take salmon in the tidal portions of them as late as the 20th October is claimed under section 1, chap. 95, Revised Statutes of Nova Scotia, third series, which is part of the Fisheries Act. This section should be amended so that no doubt as to its meaning can arise, and it should provide that inside the mouths of rivers no salmon be taken after the 15th August; and in the sea, not within three miles of the mouth of any harbor or river, and there not later than 15th September.

Overseers often find it difficult to carry out the "instructions" given for their guidance in enforcing the law, as the judges sometimes construe the law so as to differ from some of the clauses in these "instructions." Hence the necessity arises of having them properly legalized under the Act, and published by authority as Local Regulations. Every possible assistance should be given to the local officers as they have a most difficult and unpleasant duty to perform. It would much simplify matters, and remove a source of trouble if the Nova Scotia Law could be repealed. Its retention answers no good purpose, but gives rise to much confusion and dispute. As the *Fisheries Act* covers all its provisions in precise and unambiguous terms, it is now unnecessary and ought to be dispensed with.

Respectfully submitted,

W. H. VENNING,

Inspector of Fisheries, N. S. and N. B.

The following are the letters of Dr. Reid and Prof. Baird to which reference has been made in the foregoing Report. The paper by Prof. Smith, of Yale College, contains much valuable information on the natural history of the lobster.

HALIFAX, N. S., Nov. 24th, 1873.

"W. F. WHITCHER, Esq.,
Commissioner of Fisheries,
Ottawa, Canada.

"DEAR SIR.—I have for the past two years noticed in various parts of the Province that an indiscriminate capture of lobsters was adopted, and this being so, there was a great probability of future scarcity, if not extinction; and I was pleased to see that the regulations of your Department insist on a close season and the rejection of females with ova, as well as of the young or small crustaceans. It would be too bad to deplete our waters of this fish, and this I felt confident would be the result unless some means of restriction were adopted; for so far neither the young nor ova-bearing females were regarded by the fishermen or manufacturers. They do not even use the whole of the edible part of the lobster, because, as I was directly informed, it cost too much to pick out the meat from the body and legs, and that lobsters were too cheap to make worth while the extra expense.

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"I was astonished to find that naturalists have but very meagre information of an accurate character regarding this shell-fish. This much is known that the hatching of the ova takes place before they leave the female; not that they are ovoviviparous, but that at the spawning season instead of the ova being deposited in some sheltered locality as obtains with most fish, they remain attached in clusters to the ventral surface of the tail of the female, and are hence subject to all accidents that may attend the mother during this period. The ova remains thus attached until the germ becomes fully developed, and it is believed that they do not leave the mother until the capsules of the ova are ruptured and the young crustacean is able to maintain an independent existence.

"They are now most susceptible of injury by their enemies since they are unprotected for a period by the hard shell that so well favors their defence when fuller grown. Hence why I think the regulations of your Department are so necessary during the incubation stage just referred to.

"The lobster is a general sea scavenger, and when full grown is independent of his enemies (unless during the moulting season, which does not last very long) and hence the reason for their being so plentiful; and with care I think this abundance might be continued for an indefinite period considering their fecundity. Not being very well informed on the subject of the probable extinction of the lobster, and to give more valuable information to your Department, I took the liberty of writing the Rev. John Ambrose, now of Digby, N. S., but for a long time stationed at St. Margaret's Bay, and on the Atlantic coast of this Province. The Rev. gentleman has for years given to this and kindred subjects much of his time and attention and his opinion is entitled to a great deal of weight.

"The following are his words in reference to the probability of extinction, and I find that he expresses himself to me even stronger on this point than I did to him.

"'Having for some time previously had my suspicions that it was not without reason that a firm of lobster canners in Maine had first removed thence to Sambro and thence after some years to Peggy's Cove, I made enquiries among the fishermen of Sambro and found that whereas before the establishment of the factory there lobsters had been abundant close in-shore, a few years of canning had so thinned them out that at the time of my enquiry (in 1868) large lobsters were only to be found outside of their old limits, and even small ones were very scarce (comparatively) close in. This I found had also been the case along the shores of the United States.

"'Although the canning had been going on at St. Margaret's Bay but about two years before I left that place, fishermen informed me that the places most fished over were not so productive as at first.

"'When we consider that the ova are carried by the female so long and in such large quantities, it is easy to see that the lobster suffers perhaps more than any other fish, crustacean or otherwise, from the non-observance of a close season by its pursuers. I noticed that at Peggy's Cove even the smallest lobsters were destroyed when brought to the factory. I thought at the time that an inspector on the spot should see that all such were returned alive to the sea so soon as caught in the cages, and that a close time should be insisted on.

"'If some conservative measures be not soon adopted and unremittingly insisted upon, I am sure that this fine crustacean, for which our shores have been hitherto famous, will soon be as scarce here as elsewhere.

"'This subject of the preservation and increase of our fish is one demanding immediate attention.'

"Lobster canning is now an important industry and factories exist all along the Atlantic coast from Cape Breton to Cape Sable. It is desirable that no undue restriction be placed on it, but it is none the less necessary that regulations be adopted that will tend to maintain its continuance.

"Believe me,

"Yours truly,

(Signed) S P. Reid, M.D."

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UNITED STATES COMMISSION, FISH AND FISHERIES,
WASHINGTON, December 4, 1873

MESSRS. STILWELL AND STANLEY,
Fish Commissioners of Maine.

GENTLEMEN,—My attention has been especially directed the past season to the subject of the lobsters on the New England coast, and I have received from numerous parties the assurance that unless something be done to regulate this branch of industry it will before long become practically worthless. I have been told by many reliable persons that, not only has the size greatly diminished, but that the numbers taken are much fewer than formerly. In view of the extension of the lobster fisheries within a few years past, principally for the purpose of canning, this result was not unexpected, although it seems to have come at an earlier period than was anticipated.

With a view of securing for you the most reliable information in regard to this species, I beg to append herewith a paper written at my request by Mr. Sidney J. Smith, of Yale College, New Haven, who is our best specialist in reference to the American crustaceans, and who speaks quite by authority in all that he states.

It is for yourself to judge how far the reasoning therein presented will render special legislation expedient for the State of Maine.

At present there appears to be no possible remedy beyond that of restricting the catch for a greater or less period of time; and unless this be done, it is most probable that the diminution will continue at an alarming rate.

The most simple law would be one absolutely prohibiting for a certain time the capture of lobsters, whether for immediate sale or for canning, making the penalty sufficiently severe to deter those who may be so inclined, from violating it. If the months of July and August were named as this period of prohibition, it would go far to secure the needed protection, and perhaps cover the most critical portion of the spawning season.

It is not sufficient simply to protect the female, or those that have eggs, but the prohibition of capture should extend to both sexes. For the better understanding of the differences between the male and female lobster, referred to by Mr. Smith, I have caused some figures to be engraved, of which I beg your acceptance.

Very respectfully,
(Signed) SPENCER F. BAIRD,
Commissioner.

NOTE ON THE NATURAL HISTORY OF THE LOBSTER.

BY SIDNEY J. SMITH.

The American lobster is found upon the Atlantic coast from New Jersey to Labrador, and yet almost nothing has been published in regard to its traits and local distribution. It lives upon rocky, gravelly and sandy bottom, from low water down to twenty or thirty fathoms and perhaps deeper, but not probably at great depths. It feeds upon any kind of animal matter, either fresh or decaying, which it can discover.

In Long Island Sound the lobster fishing begins late in March or early in April, and continues till late in the fall, although the greater part are taken in May and June. On the coast of northern Massachusetts and Maine, whence the winter supply comes, they may be taken nearly all the year round. Captain N. E. Attwood, writing in 1866, says they do not come into shallow water about Provincetown, Mass., till June, and remain till October, when they disappear from near the shore. He also says that north of Cape Cod the male lobsters are more abundant than the female, while south of the Cape the reverse is true. As far, however, as I have myself observed along Long Island Sound and Vineyard Sound, at Portland and Eastport, Maine, the sexes are taken in about equal

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numbers. As this is a question of considerable interest, it may be remarked that the sexes can be readily distinguished by the little appendage upon the under side of first ring of the tail. These are stout, stiff, horny, and grooved on the inside towards the tips, in the male, while in the female they are smaller, slender, soft and flexible; moreover, the genital orifices in the male are on the inside of the basal joint of each of the hind pair of body legs, while in the females they are situated in similar places upon the third pair, or hinder of the pincher-like legs.

In attempting to suggest means for preventing the exhaustion of the lobster fisheries, the time of spawning and the development of the young become matters of great importance. The time at which the females carry eggs varies very much on different parts of the coast, being later and later as we go further north. South of Cape Cod, in Long Island and Vineyard Sounds, they are found carrying eggs from the first of April till late in June. At Portland, Maine, they were carrying eggs till the middle of August, while in the Bay of Fundy they are found with eggs from midsummer till September. More exact information on this point is very desirable, although this is enough to show that the period of carrying eggs covers the time during which a great part of the lobsters are taken for the market.

Soon after the hatching, the young leave their parent and live for a considerable period a very different life from the adult. At first they are not more than a third of an inch long, and have scarcely any resemblance to a lobster. They are furnished with long swimming branches to the legs and swim about freely in the water, living most of the time near the surface of the water, like many kinds of free swimming shrimps. With each change of the skin they become more and more lobster like, until when a little more than half an inch long they appear like veritable little lobsters, but still have the free swimming habits of the earlier stages. During this period, which must be several weeks, they are constantly exposed to the attacks of fishes and all sorts of marine animals, while they themselves pursue and feed upon still smaller fry. Any attempt to rear great numbers through these stages in confined areas would probably prove unsuccessful, as the young at this time require a great amount of pure sea-water and peculiar food, found only where minute, free-swimming animals congregate.

After they become a few inches long, the growth of lobsters is very slow. They increase in size only at the times of shedding the shell, which probably takes place only once a year for those of ordinary size, and the increase at each of these changes is very small, as may be seen by comparing the size of the cast shell with the lobster a few days after leaving it. In lobsters of very large size the shell is not always changed, even as often as once a year.

How early they begin to breed is somewhat uncertain. Females not more than half a pound in weight are, however, found carrying eggs, but in these small females the eggs are comparatively few in number. The average weight of lobsters sold in New Haven market is about two pounds.

It will readily be seen that any close time which should cover the entire period of spawning, would stop the lobster fishing during the height of the season when nearly all the profit is derived from the business. During the hottest weather of mid-summer, vast numbers die while being marketed. Preventing their capture at this time would, undoubtedly, after a few years, have a marked effect upon the supply during other parts of the season.

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APPENDIX O.

SPECIAL REPORT ON CERTAIN PETITIONS AGAINST THE REGULATION AFFECTING THE LOBSTER FISHERY.

FISHERIES OFFICE, N.S. AND N.B.,
February 4th, 1874.

Hon. A. J. SMITH,
Minister of Marine and Fisheries.

SIR,—Referring to petitions from the counties of Lunenburg, Shelburne and Yarmouth, N.S., praying that the regulation relating to lobster fishing be rescinded, copies of which have been sent to me for report, I have the honor to make the following remarks on the six reasons advanced by petitioners for asking that the regulation be repealed. For convenience I will quote each reason, and submit my remarks, for which I respectfully solicit your consideration, as the subject is one of great importance and involves the continued existence of this valuable fishery on the coasts of the Maritime Provinces.

FIRST REASON.—"Because the majority of the lobsters caught on these shores, as "also on the shores of the United States, are under the weight of one and a half pounds, "and such being the case, one half of every catch must be liberated under the provisions "of such order."

Answer.—The assertion that the majority of lobsters caught in Nova Scotia are under the weight of one and a half pounds is erroneous, and in localities where the average is so small, either on the United States coasts or on those of Nova Scotia, the result has been brought about by the very abuses which this regulation seeks to restrain. In almost all localities where lobsters are found, in the United States as well as in Nova Scotia and New Brunswick, the size of them will, when the locality is first fished, average three pounds, large numbers running from three to four and often to five pounds weight. After the indiscriminate fishing which has hitherto prevailed has been followed for a few seasons, a great falling off in size as well as in numbers is invariably observed, until at length that particular locality is completely fished out, the smallness in size rendering further operations unprofitable. This has been the invariable result on the New England coasts, where at present this once profitable fishery is almost destroyed; and in consequence, proprietors of canning establishments have deserted their own shores and are establishing themselves all along the coasts of Nova Scotia and New Brunswick, where they are fast producing the same results, to obviate which is the object of the regulation now sought to be repealed. In order that no doubt might exist as to the incorrectness of the statement made in the first reason, I addressed a letter to every overseer in Nova Scotia and New Brunswick in whose district this fishery was pursued, asking him to give me the average weight of the lobsters caught in his jurisdiction. From the answers given you will perceive that so far from the majority being under the minimum weight fixed by the Order in Council, the fact is that the average is considerably above it, while in those localities where no canning establishments are in operation, the average weight is very much larger than in those where they cause excessive fishing, and that where they are most numerous the average weight is smallest.

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NOVA SCOTIA.

County.	Average weight. Lbs.	No. of Factories.
Halifax, East	2	8 and two more building.
do West	2½	7
Lunenburg	2½	3
Queen's	2¼	3 and two more building.
Shelburne	2½	7
Yarmouth	2½	1
Digby	3	None.
Colchester	3	None.
Pictou	5	1
Guysborough	1½	8
Antigonish	4	1
Victoria	3	None.
Richmond	2	2
Cape Breton	2	2

NEW BRUNSWICK.

County.	Average weight. Lbs.	No. of Factories.
Restigouche	3½	3
Gloucester	3	5
Northumberland	3	4
Kent	2	8
Westmoreland	3	None.
Albert	4	None.
St. John	4	None.
Charlotte	2½	4

From this it appears that the localities in which lobsters of so small a weight as one and a half pounds are now caught, are the very ones where this regulation is absolutely necessary to prevent the total destruction of the fishery. This is fully corroborated by Mr. John Mitchell, the foreman of the Portland Packing Company, now carrying on an extensive canning establishment in the Island of Grand Manan. Mr. Mitchell is an intelligent Scotchman and the father of the business in North America, having been brought from Scotland to superintend the first lobster canning operations ever commenced in America. He assured me last season, while collecting information on this subject, that he commenced east of Boston some twelve or fifteen years ago, and has been gradually working eastwards, leaving all localities behind him fished out, until at length he has reached our shores, where he says the same results will inevitably follow, unless some vigorous protective measures are adopted. Already he sees a falling off both in size and numbers in Grand Manan, and he says that lobsters of a less weight than one and a half pounds will not pay for the labor bestowed on them. He strongly urges the enforcement of this regulation.

SECOND REASON.—"Because the lobster is not a fish which, as in the case of the "salmon, is confined to any particular locality, which by indiscriminate catching might "become impoverished and result in the fish ceasing to resort thereto; but is, on the "contrary, a denizen of the vast ocean, and the cause of their seeking at times the shore "is to spawn and feed."

Answer.—This reason displays either great ignorance of the subject on the part of the petitioners or a presumption of greater ignorance on the part of your Department and its officers. The exact contrary is the fact. The lobster, above all other crustaceans,

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confines itself in shore to particular localities, and all experience proves that "indiscriminate catching" does "impoverish" and even ruin the fishing in these localities. I think it unnecessary to combat this reason, but beg to refer you for your own satisfaction to an able paper on this subject from Dr. S. P. Reid, of Halifax, which is appended to my report for 1873. His remarks, and those of the Rev. John Ambrose, fully corroborate my own opinions, and as they are made by intelligent and observing men, I respectfully ask for them your careful consideration.

THIRD REASON.—"Because to catch and preserve these crustacea is to take from the "wealth of the vast ocean, and add to the riches of the country, when caught and "preserved, and at no loss to the ocean, owing to the tremendous reproductive powers of "the lobster. If not taken it is so much loss, as those liberated may never revisit the "same place."

Answer.—This reason displays even more want of knowledge of the subject than the last. All experience proves that the "vast ocean" will not keep up the supply in localities that are indiscriminately fished, and in which females and young lobsters are destroyed wholesale. The object of the regulation is to prevent the total destruction of this source of wealth in localities where already the supply is rapidly diminishing. For a fuller refutation of this reason, I beg to refer you again to Dr. Reid's paper, and also to the letter of Professor Baird to Mr. Whitcher, appended to this Report.

FOURTH REASON.—"Because the best of every average catch are lobsters of less "than one and a half pounds weight."

Answer.—This is but a reiteration of the incorrect statement contained in the first reason. All localities in which the best lobsters are less than one and a half pounds weight, are the very ones where this regulation, or one equally protective, is sadly needed. (See Professor Smith's paper on the Lobster, appended to my Report for 1873; Appendix N, page 147.)

FIFTH REASON—"Because this order, continuing to be law, will deprive your peti-"tioners and all others engaged in the occupation for a livelihood (being a large portion "of the inhabitants of our shores), of the means of living, or force them to seek other "occupations, and will, in the opinion of your petitioners, destroy this branch of industry "and ruin the numerous factories which now give them employment, and at the same "time crush, almost in its infancy, that trade which bids fair to be a great source of "wealth and revenue to this country without procuring any corresponding benefit."

Answer.—From all localities where lobster-fishing has been pursued to any extent for the last few years, constant and repeated complaints have been made by Fishery Officers, proprietors of canning establishments, and even by fishermen themselves, against the destruction caused by indiscriminate catching of this shell-fish. Allusion to these has been frequently made in my annual reports as well as in special reports upon this subject, and to my own knowledge, petitions were in course of signature, praying for some measure of protection, which were withheld only on my assurance that the regulation now sought to be repealed was under consideration, and would probably be adopted. So far from this regulation "crushing in its infancy this source of wealth and revenue," I am convinced, from extensive observation and enquiries among the canning establishments, that its strict enforcement is absolutely necessary to preserve the very existence of the trade.

SIXTH REASON.—"Because, in the neighbouring Republic, though a somewhat simi-"lar law was passed some two years since, it has been found impossible of enforcement, "or highly impolitic, and remained a dead letter, and never enforced."

Answer.—No country in the world has felt so seriously the want of protective measures for her fisheries as the United States. Now that her once valuable coast and river fisheries are utterly ruined by indiscriminate fishing, her government has awoke to the importance of them, and is devoting large sums to their restoration by artificial means. In hope of restoring their lobster-fisheries, the fishermen of Maine are transporting females and young lobsters to depopulated localities, and the Legislature has passed a regulation prohibiting the killing of a spawn lobster under a fine of $10 for each fish, and confiscation of boat and materials. The Fish Commissioners of the New England States

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are now endeavouring to procure more stringent measures of protection for this shell fish, and they recommend that none less than two pounds weight shall be killed.

[Since this Report was written, further legislation in the State of Maine has resulted in the following law:—

"SEC. 1. No person shall catch, preserve, sell or expose for sale, within the limits of the State of Maine, any lobsters between the first day of August and the fifteenth day of October of each year; and from the said fifteenth of October to the first day of April next following of each year, no lobster shall be so caught, preserved, sold, or exposed for sale, under ten and one-half inches in length, measuring from one extreme of the body to the other, exclusive of claws or feelers; but from the said first day of April to the first day of August of each year there shall be no such restriction as to time or size, in the taking, preserving, selling or exposing for sale such fish.

"SEC. 2. Any person violating any provision of the above section shall be punished by a fine of ten dollars for every such lobster so caught, used, sold, or exposed for sale, as aforesaid; one-half to the person making the complaint and one-half to the use of the Town in which the offence is committed."]

By far the largest canning establishments now in operation in Nova Scotia, are carried on by Americans, who buy by tale or weight from resident fishermen. They have no permanent interest in the fishery, believing that it will last their time, or at least until they have acqqired wealth by the pursuit, and the resident fishermen are so blind to their own interests that all they think or care about is present gain. Until within the last few years lobsters have been so plentiful and so cheap on our shores that the mode of preserving them has been a most wasteful one. Only the meat from the tail and claws had been utilized, all the rest has been thrown away or used as manure, because while lobsters are cheap it will not pay to pick out the meat from the body and legs. So great is the diminution in the size of the lobsters, that it now takes five pounds of crude fish to make one pound of preserved meat, requiring on an average three lobsters to fill a pound can. When it is considered that many hundreds of thousands of these cans are filled annually, it will be seen how great is the destruction each season, and how necessary it is that this regulation, or some other equally protective measure, should be enforced.

With respect to the suggestion made by the petitioners, that the portion of the regulation referring to female lobsters should be restricted to a period of four weeks, from 1st August to 1st September, I beg to say that it was not without due consideration that the regulation was passed as it now stands. In different localities the lobster spawns (or more properly speaking, the young detach themselves from the parent) at different times. In some localities this takes place as early as July, while in others as late as the last of September. A close time, such as suggested, would not be applicable to all localities, but as the regulation now stands it will apply to all. The lobster fisher has simply to liberate a female fish which has eggs attached, whenever and wherever he catches it. If he does not he cannot sell it, for the purchaser is equally liable.

The New England Commissioners propose a close time of three months, April, May and June, on the south coast of New England, and June, July and August on the east coast. The spawning season is later on our coasts, and varies much in different localities. To be of any service as a protective measure, a fixed close time for Nova Scotia and New Brunswick would need to cover the months of July, August and September, which would interfere much more seriously with the business than the regulation now sought to be repealed. In some localities, particularly on the north shore of New Brunswick, where this fishery is very largely pursued, such a close time would practically prohibit the business, for the weather is seldom sufficiently settled to allow of its commencement before the last of May.

I am aware that several objections can be urged against this regulation, the most important of which I will now notice. In the first place it may reasonably be urged that to ascertain the exact weight of lobsters supposed to come under this regulation, will cause some trouble and loss of time to the fishermen and purchaser. In the second

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place, it is very probable that the small lobsters, as well as the egg-bearing females, after having been liberated from the traps, will again and again be caught—thus increasing the trouble to the fisherman. But I can conceive of no protective measure that will not be open to objection. My object has been to suggest such a restriction as would effectively protect the fishery, and at the same time interfere as little as possible with the work of the fisherman. As it now stands, I believe the regulation will best accomplish these ends. Were the object simply to protect the fish, without regard to the interests of the fishermen and preservers, I should have urged an absolute close time sufficient to cover the whole spawning season. But, as before stated, this would, in some localities, practically prohibit the business.

In conclusion, I beg to say, that this regulation is the result of three years' careful consideration and enquiry by Mr. Whitcher and myself, and as I am convinced that its rigid enforcement, or some other measure quite as stringent, is absolutely necessary to prevent the total extinction of this valuable crustacean on the shores of Canada, I respectfully but earnestly urge that if this regulation is repealed, some other equally effective may be adopted in its stead, and fishery officers instructed to enforce it with the utmost vigilance.

Respectfully submitted.

W. H. VENNING,
Inspector Fisheries, N. S. & N. B.

The following is the letter from Prof. Spencer F. Baird, of the Smithsonian Institute, U. S. Commissioner of Fish and Fisheries, to which reference is made in the foregoing Report, and which was addressed to the Commissioner of Fisheries of Canada to ascertain what action, if any, your Department had taken in the matter, in reply to which Mr. Whitcher informs me a copy of the existing regulation was sent.

(COPY.)

UNITED STATES COMMISSION,
FISH AND FISHERIES.
WASHINGTON, 8th January, 1874.

MY DEAR SIR,—A concerted movement is now going on, on the part of the Fish Commissioners of the New England States, to procure concurrent legislation in reference to the protection of lobsters, which have become almost exterminated along the coast in consequence of the immense numbers captured during the summer for the purpose of canning. It is very difficult now to obtain individuals, in Maine or Massachusetts, weighing over a pound and a half or two pounds, and an Act is contemplated making two pounds the minimum of size at which they shall be sold, and regulating the time of capture. All seem to agree that it is the summer canning business that has caused the diminution. I am informed that at present the yield on the coast of Maine has become so small that the packers have for several years been obliged to go to the Provinces, and that on the coast of Nova Scotia and New Brunswick there are some 47 establishments for packing, and that they use up from 3 to 5 tons each per day in the season, lasting nearly or quite six months, making the total annual destruction at least 30,000 tons. At this rate your waters will soon be depopulated, as well as those of the United States, and it is a question whether in view of the magnitude of the interest it may not be well to adopt early legislation for the protection of this animal.

Please let me know whether it is at all likely that such legislation is probable. If so, it is quite desirable that there be some understanding between the two sections of the country.

The principal measures of restrictions that can be adopted are: first, as to size, and second, as to time of capture, the latter relating chiefly to the spawning season. It is quite impossible to trust to any obedience to law on the part of the captors regarding the rejection of females, as in accordance with my observations in such cases the entire stock is taken indiscriminately.

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The period during which the eggs are carried by the female is quite lengthy, and the spawning time extends over quite an interval, although this appears to be later as we proceed farther east. An absolute intermission is perhaps the best that can be adopted; for instance, three months during April, May, and June, on the south coast of New England; June, July, and August on the east coast; and July, August, and September, or at least August and September, on the coast of Nova Scotia.

The details of such a plan must, of course, be settled by a careful consideration of the subject, and with the requisite data.

I have sent quite an elaborate article on this subject to Mr. Stilwell, Fish Commissioner of Maine, as prepared by Professor Verill and Professor Smith, of New Haven, and which will shortly be published. This will cover the main points to be considered.

Very truly yours,

(Signed) SPENCER F. BAIRD,
Commissioner.

W. F. WHITCHER, ESQ.,
Commissioner of Fisheries,
Ottawa, Canada.

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APPENDIX P.

RETURN showing the Number, Tonnage, and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men employed, &c., in the Province of Nova Scotia, for the Year 1873.

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.				KINDS OF FISH.						
	Vessels.				Boats.			Nets.		Weirs.		Salmon, barrels.	Salmon, fresh, in ice.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels,	Mackerel, in cans,	Herrings, barrels,
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	No.	Value.							
			$			$			$		$							
Cumberland ..	3	85	750	14	77	300	235	8320	6390	12	480	150	5250	.....	.....	75	.....	3890
Colchester.....	....	.....	.....	.....	123	4500	275	37444	9977	35	16050	211	.....	.....	.....	.....	.....	305
Hants	....	.....	.....	.....	.....	.....	.....	.....	.....	80	8000	300	.....	.....	.....	.....	.....	250
King's	....	.....	.....	.....	51	867	213	7070	4392	12	950	10	43200	.....	.....	10	.....	2520
Annapolis.....	4	.....	.....	.....	65	1600	110	2300	1150	7	700	9	11400	3000	.....	375	.....	500
Digby	15	983	34719	310	481	18374	971	12151	11241	12	2700	.....	10200	.....	.....	.....	.....	3330
Yarmouth	77	3344	126590	897	359	10127	587	17376	7944	.....	.....	.....	18828	.....	.....	909	.....	2560
Shelburne	....	.....	.....	.....	....	.....	.....	.....	.....	.....	.....	29	.....	.....	.....	12000	.....	30000
Queen's.....	28	1081	31400	238	548	7390	1213	24480	11395	.....	.....	8	107150	.....	.....	.....	1192	6394
Lunenburg	99	5173	257240	1087	2290	27900	1504	107100	63666	.....	.....	.....	44400	4800	.....	10650	200	19486
Halifax	48	990	183000	199	1774	33580	2350	116641	51752	482	22330	.....	22657	4700	10000	49000	3950	51130
Pictou	....	.....	.....	.....	.....	1510	159	15559	.....	.....	.....	.....	118983	.....	.....	4500	.....	21021
Antigonish	23	1671	55800	189	144	4280	454	14880	85400	.....	.....	50	40000	.....	15000	5000	.....	5000
Guysborough..	50	1867	53500	323	1242	31918	1923	182440	90974	44	7150	679	33280	16900	4800	16028	100	15095
Richmond	70	2149	85800	476	576	14366	1349	115172	117342	.....	.....	326	5820	.....	.....	17625	.....	14025
Cape Breton...	10	50	2081	80	507	14131	1056	37950	27198	.....	.....	643	13150	1360	.....	2832	.....	5890
Victoria	10	370	10600	46	408	8860	916	18870	2860	.....	.....	380	.....	.....	.....	3110	.....	3785
Inverness	26	698	18600	213	364	7605	1579	25658	15965	407	12210	1838	30605	7000	132000	18891	5400	12035
Total	490	18471	860110	4072	9069	187308	14894	743411	507646	1091	70570	4633	504523	37760	161800	141005	10842	197126

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RETURN showing the Number, Tonnage, and Value of Vessels and Boats engaged in the Fisheries, &c.—*Continued.*

DISTRICT.	KINDS OF FISH.															FISH PRODUCTS.			
	Herrings, smoked, in boxes.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollock, cwt.	Hake, cwt.	Haddock, lbs.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish Guano, tons,	Fish used as manure, barrels.	Value.
																			$ c.
Cumberland	.....	475	2720	.....	345	345	28000	15000	950	560	12650	3100	1	50	.....	100	2	.....	46487 60
Colchester	750	.....	3000	.....	.....	.....	.....	.....	1671	.....	3240	14000	.....	.....	.....	80	.....	10	32414 90
Hants	.....	.....	220	.....	.....	.....	.....	.....	1050	.....	.....	.....	.....	.....	.....	.....	.....	.....	15735 00
King's	8700	430	860	.....	600	.....	.....	.....	700	.....	3900	5400	.....	.....	.....	1130	7	.....	33272 50
Annapolis	7000	14	500	80	330	1700	74500	23000	20	2000	1000	.....	.....	.....	3000	590	4	40	27064 50
Digby	4200	40	26545	93	14760	3925	73000	131215	150	.....	1000	15000	30	.....	4250	27700	.....	.....	228655 15
Yarmouth	780	1945	74567	54	4225	625	471500	41900	4	.....	2000	18800	116	.....	75287	25395	206	175	435053 45
Shelburne	.....	250	95000	5	.....	13000	.....	.....	.....	.....	.....	.....	.....	.....	1500	70000	.....	.....	736557 00
Queen's	.....	1128	22619	.....	.....	.....	1995	.....	.....	.....	.....	.....	.....	.....	259000	22095	.....	.....	221281 50
Lunenburg	.....	453	123265	10	4030	5430	405130	73000	57	.....	20650	8641	96	.....	492000	53826	103	584	942024 91
Halifax	.....	175	100000	1828	541	5590	232800	75620	.....	.....	.....	20000	.....	.....	1639450	22311	.....	.....	1619172 40
Pictou	.....	.....	245	.....	.....	.....	.....	.....	.....	.....	50	1300	.....	6	.....	6033	.....	.....	75993 15
Antigonish	.....	2615	4257	105	108	470	.....	.....	.....	.....	172	238	1350	12011	1500	895	.....	.....	159817 10
Guysborough	.....	970	19730	65	70	410	6145	137500	5	.....	13100	8000	121	.....	717300	19390	.....	.....	533890 20
Richmond	.....	1475	40200	50	330	550	14395	6600	.....	.....	4655	5600	344	50	160000	176480	.....	250	578491 50
Cape Breton	.....	462	18117	.....	11	26	194750	31200	5	.....	4350	12800	209	11	45000	12922	.....	.....	180563 55
Victoria	.....	.....	21451	.....	.....	160	620	.....	.....	.....	.....	.....	.....	.....	.....	7110	.....	.....	149465 45
Inverness	.....	1351	42271	177	.....	12090	125210	.....	.....	.....	6400	.....	70	.....	10011	19382	.....	.....	561146 65
Total	21430	11783	595567	2467	25350	44321	1628045	535035	4612	2560	73167	112879	2337	12128	3462298	465397	322	1059	6577086 51

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RECAPITULATION

Of the Yield and Value of the Fisheries of the Province of Nova Scotia, 1873.

Kinds of Fish.	Quantity.	Rate.	Value.
		$ cts	$ cts.
Salmon	4,633 barrels	18 00	83,394 00
do fresh, in ice	504,523 lbs	0 15	75,678 45
do smoked	37,376 lbs	0 15	5,664 00
do preserved	161,800 cans	0 25	40,450 00
Mackerel	141,005 barrels	10 00	1,410,050 00
do preserved	10,842 cans	0 15	1,626 30
Herrings	178,126 barrels	4 00	712,504 00
do smoked	21,430 boxes	0 25	5,357 50
Alewives	11,783 barrels	3 50	41,240 50
Cod	595,567 cwt	4 25	2,531,159 75
Cod tongues and sounds	2,467 barrels	7 00	17,269 00
Pollock	25,350 cwt	3 50	88,725 00
Hake	44,321 cwt	3 50	155,123 50
Haddock	1,628, 045 lbs	0 06	97,682 70
Halibut	535,035 lbs	0 06	32,102 10
Shad	4,612 brls	8 00	36,896 00
Bass	2,560 lbs	0 06	153 60
Trout	73,167 lbs	0 06	4,390 02
Smelts	112,879 lbs	0 06	6,772 74
Eels	2,337 brls	9 00	21,033 00
Oysters	12,128 brls	3 00	36,384 00
Lobsters	3,462,298 cans	0 25	865,574 50
Oil	465,379 gallons	0 65	302,496 35
Fish guano	322 tons	15 00	4,830 00
Fish for manure	1,059 barrels	0 50	529 50
			6,577,086 51

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APPENDIX Q.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men employed, &c., in the Province of New Brunswick, for the Year 1873.

District.	Vessels and Boats employed in Fishing.							Fishing Material.				Kinds of Fish.						
	Vessels.				Boats.			Nets.		Weirs.								
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Salmon, barrels.	Salmon, fresh, in ice.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herrings, barrels.
			$			$			$		$							
Restigouche	.....	.....	.....	.....	80	1675	168	8470	5035	60	300	341	4500	.....	530000	50	.....	141
Gloucester	8	1250	10200	1245	506	85292	2182	45015	25855	.....	200	60	26217	.....	184884	1710	12850	36975
Northumberland	10	211	6300	31	343	13528	691	59826	40436	125	500	141	600721	32950	338400	364	4000	3458
Kent	3	60	1300	17	263	43400	1260	111500	46550	.....	.....	.....	192200	.....	67900	905	4200	4260
West & Albert	....	.....	.....	.....	65	1416	402	5975	2816	7	600	480	.....	.....	.....	200	.....	4450
Carleton	.....	.....	.....	.....	.....	174	36	635	31750	.....	.....	.....	27550	.....	.....	.....	.....	.....
York	.....	.....	.....	.....	150	3000	300	4000	2000	.....	.....	.....	60000	.....	.....	.....	.....	.....
King's, Queen's, and Sunbury	.....	.....	.....	.....	49	890	58	3122	852	.....	.....	.....	32000	.....	.....	.....	.....	.....
St. John's	8	160	4000	40	316	9500	689	111160	11460	25	7500	25	490000	55000	.....	.....	.....	4260
Charlotte	125	1377	43016	406	853	55273	982	35148	34350	56	12450	.....	.....	.....	.....	.....	.....	40605
	154	3058	64816	1739	2625	214184	6768	384851	201124	273	21550	1047	1433188	87950	1121184	3229	21050	94149

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RETURN showing the Number, Tonnage, and Value of Vessels and Boats engaged in the Fisheries, &c.—*Continued.*

District.	Kinds of Fish.															Fish Products.			
	Herrings, smoked, in boxes.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollock, cwt.	Hake, cwt.	Haddock, lbs.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Smelt, lbs.	Hake, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish Guano, tons.	Fish used as manure, barrels.	Value.
																			$ cts.
Restigouche	.....	.....	500	.....	.....	.....	.....	.....	.....	.....	4000	5000	200	.....	291000	.....	.....	1050	218117 00
Gloucester	.....	4653	62950	804	400	1950	7711	112600	.....	131100	52500	98850	1310	7360	210500	12030	.....	5060	638099 21
Northumberland	.....	2356	1200	51	.....	100	500	1000	63	55657	8430	3000	429	350	51300	900	.....	1588	238047 87
Kent	.....	2345	2185	800	925	488	.....	.....	.....	180130	9200	375000	68	7260	312000	1885	.....	.....	236041 30
West & Albert	1200	100	830	.....	945	3505	9500	1200	2105	1100	22600	210000	95	200	.....	500	.....	.....	81425 50
Carleton	.....	.....	.....	.....	.....	.....	.....	.....	40	11400	1800	1670	500	.....	.....	.....	.....	.....	11464 79
York	.....	500	.....	.....	.....	.....	.....	.....	300	500	10000	4000	250	.....	.....	.....	.....	.....	16540 00
Kings, Queens, and Sunbury	.....	2800	.....	.....	.....	.....	.....	.....	88	43000	1650	.....	.....	.....	.....	.....	.....	.....	15655 00
St. Johns	500	18250	150	.....	115	.....	3000	3200	300	1500	.....	.....	800	.....	10000	.....	.....	.....	176842 00
Charlotte	497140	.....	11879	1950	16014	19690	243970	9400	.....	.....	.....	.....	.....	.....	512900	42646	482½	100	635429 35
	498840	31004	79694	3606	18399	25733	264681	127400	2896	424387	109980	697520	3652	15100	1387700	57961	482½	7788	2285661 93

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RECAPITULATION

Of the Yield and Value of the Fisheries of the Province of New Brunswick, 1873.

Kinds of Fish.	Quantity.	Rate.	Value.
		$ cts.	$ cts.
Salmon	1,047 barrels	18 00	18,846 00
do fresh in ice	1.433,188 lbs	0 15	214,978 20
do smoked	87,950 lbs	0 15	13,192 50
do preserved	1,121,184 cans	0 25	280,296 00
Mackerel	3,229 barrels	10 00	32,290 00
do preserved	21,050 cans	0 15	3,157 00
Herrings	94,149 barrels	4 00	376,596 00
do smoked	498,840 boxes	0 25	124,710 00
Alewives	31,004 barrels	3 50	108,514 00
Cod	79,694 cwt	4 25	338,699 00
Cod tongues and sounds	3,605 barrels	7 00	25,235 00
Pollock	18,399 cwt	3 50	64,396 50
Hake	25,733 cwt	3 50	90,065 50
Haddock	264,681 lbs	0 06	15,880 86
Halibut	127,400 lbs	0 06	7,644 00
Shad	2,896 barrels	8 00	23,168 00
Bass	424,387 lbs	0 06	25,463 22
Trout	109,980 lbs	0 06	6,598 80
Smelts	697,520 lbs	0 06	41,851 20
Eels	3,652 barrels	9 00	32,868 00
Oysters	15,160 do	3 00	45,480 00
Lobsters	1,387,700	0 25	346,925 00
Oil	57,961 gallons	0 65	37,674 65
Fish guano	482½ tons	15 00	7,237 50
Fish for manure	7,788 brls	0 50	3,894 00
			2,285,661 93

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APPENDIX R.

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APPENDIX

STATEMENT of the Number and Value of Vessels, Boats, Nets, &c., for the

Station.	Vessels and Boats employed Fishing.							Nets, their Number, Size								
	Vessels.				Boats.			Gill Nets.			Seines.			Pound Nets.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	No.	Rods.	Value.	No.	Rods.	Value.	No.	Rods.	Value.
			$			$				$			$			$
Rideau Division	....	....	...	270	55	660	....	....	.....	....	...	....	....	....	....	....
Brockville and Cornwall Divisions	....	....	....	...	8	74	134	....	55	410	116	90	200	....	....	....
Wolfe Island Division.																
Amherst Island	....	....	....	....	2	80	4	32	320	128	....	....	....	....	....	....
Pigeon Island	....	....	....	....	3	120	7	140	1400	560	....	....	....	....	....	....
Desert Lake	....	....	....	....	1	20	2	8	80	32	....	...	....	....	...	....
Charity Shoals	....	....	....	....	3	150	8	175	1750	700	....	....	....	....	....	...
Long Point	....	....	....	....	3	200	5	150	1500	600	...	....	....	....	....	....
Cataraqui River	....	....	....	....	2	30	3	....	.....	....	....	...	....	....	...	....
Simcoe Island	....	....	....	..	1	35	2	31	310	124	....	....	....	....	....	....
Collins' Bay	....	....	....	....	1	25	2	13	127	50	....	....	...	...	....	....
Halston's Bay	....	....	....	...	3	80	6	26	246	100	....	....	....	....	....	...
Drowned Lands	....	....	....	....	2	45	4	....	.....	....	....	...	....	....	....	...
Bayfield Bay	....	....	....	....	1	20	2	....	.....	....	....	....	....	....	....	....
Opinicon Lake	....	....	...	....	2	40	3	....	.....	....	....	....	....	...	....	...
Upper Gap	....	....	....	....	2	76	4	23	225	92	....	....	....	....	....	....
Eagle Lake	....	....	....	....	1	16	1	4	36	16	....	....	....	....	....	....
Gold Lake	....	....	....	....	1	20	2	4	36	16	....	....	....	....	...	....
Horse Shoe Island	....	...	....	....	1	30	2	30	300	120	.. ..	....	....	.. .	....	....
Bell's Point	....	....	....	...	1	24	2	20	200	80	....	....	....	....	....	....
Big Bay	....	....	....	....	1	50	2	10	100	40	....	....	....	. ..	....	....
Thousand Islands	....	...	....	....	2	55	4	10	100	40	....	....	....	....	....	....
Prince Edward County Division.																
Weller's Beach to West Point	....	....	...	....	24	930	77	....	4700	2200	8	380	780	....	....	....
West Point to Point Peter	....	....	....	....	10	590	26	....	7405	1485	1	100	300	....	....	....
Point Peter to Petticoat Point	...	....	...	....	7	222	16	124	3760	815	....	....	....	....	....	....
Petticoat Point to Black River	2	90	480	4	27	675	54	....	11200	2120	2	90	100	....	....	....
Bay of Quinte Division	....	....	...	...	34	1359	145	....	1450	1560	10	640	1500	....	870	3700
Cobourg Division	....	....	....	....	10	1240	36	....	2325	348	1	70	140	....	....	....
Lake Ontario Division.																
Whitby	....	....	....	....	1	10	1	1	28	9	....	....	....	....	....	....
Shoal Point	....	....	....	....	1	20	2	3	192	100	..	....	....	....	....	....
Frenchman's Bay	....	....	....	....	2	30	4	5	760	182	1	26	140	....	....	....
The Rouge	....	....	....	...	1	10	4	....	.....	....	1	28	150	....	....	....
Port Union	....	....	....	....	3	75	8	7	2052	786	2	46	250	...	....	....
Gate's Gulley	....	....	....	...	1	40	2	2	254	84	1	11	60	....	....	....
Leslieville	....	....	....	...	4	150	6	12	1501	496	1	29	160	....	...	....

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R.

together with the Yield and Value of Fish in the Province of Ontario, year 1873.

Value, &c.				Kinds, Quantities and Prices of Fish.													Value.		Total.
Hoop Nets.		Scoop Nets.		White Fish, brls.	White Fish, lbs.	White Fish, No.	Trout, brls.	Herring, brls.	Sciscos, brls.	Muskinonge, brls.	Bass, brls.	Pike, brls.	Pickerel, brls.	Coarse Fish, brls.	Total No. of brls. of Fish.	Fresh.	Pickled.	Value.
No.	Value.	No.	Value.															
	$		$													$	$	$
234	468	....	....	....	.....	.....	....	...	....	....	254	85	70	190	599	3594	.....	3594
23	210	....	....	....	.....	.. ...	....	....	....	....	60	540	30	108	182	1774	.....	1774
....	..	....	....	....	.....	1800	20	....	....	....	5	...	6	...	49	435	.....	435
....	....	..	....	....	.....	.....	120	...	....	....	....	....	....	....	120	1100	100	1200
....	....	....	....	1	.....	.....	4	2	....	....	....	....	....	....	7	20	40	60
....	....	....	....	....	.....	.....	130	....	....	....	....	....	....	....	130	1300	.....	1300
....	....	....	....	130	.....	.....	100	....	....	....	....	....	....	....	230	2300	.....	2300
16	320	....	....	....	.....	.....	....	....	....	....	10	15	7	44	76	380	.....	380
....	....	....	....	....	.....	2000	23	4	....	...	6	....	4	....	57	500	.....	500
....	....	....	....	....	.....	.....	....	4	....	....	4	5	5	4	22	100	10	110
20	400	....	....	....	....	.....	....	....	....	....	8	36	14	62	120	590	10	600
20	400	....	...	....	.....	.....	....	..	....	....	6	20	2	35	63	315	.....	315
5	100	....	....	..	.....	.....	....	....	....	....	4	10	4	15	33	165	.....	165
25	500	...	....	....	.....	.....	....	....	....	....	....	...	....	16	16	88	.....	88
....	....	..	....	....	1500	150	....	....	....	....	1	....	1	....	11	100	.....	100
....	....	....	....	...	.....	.....	2	1	....	....	2	....	..	....	5	15	20	35
....	....	....	....	....	.....	.....	1	1	....	....	3	....	1	...	6	15	20	35
....	....	....	....	20	.....	.....	10	....	...	....	..	....	....	....	30	300	.....	300
....	....	....	....	....	.....	.....	8	....	....	....	....	....	....	....	8	60	20	80
5	100	....	....	....	.....	.....	....	....	....	....	5	10	7	12	34	170	... .	170
7	140	....	....	....	.....	.....	....	....	....	....	7	25	5	29	66	330	.....	330
....	....	....	....	....	66600	21300	32	195	....	....	....	.. .	....	....	227	2359	.....	2359
....	....	....	....	40	51109	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2300	320	2620
....	....	....	....	....	.....	5722	50	...	...	....	....	....	....	....	....	1078	.....	1078
....	....	....	....	1055	207000	.....	112	....	....	....	10	50	....	10	1247	10320	.....	10320
...	.....	8	24	77	.....	.....	20	2711	....	....	....	....	120	1250	4178	22588	.....	22588
....	....	....	....	15	.....	.....	520	....	....	120	....	....	....	....	655	6550	.....	6550
....	....	....	....	....	.....	.....	....	...	....	....	....	3	....	....	3	18	.....	18
....	....	....	....	2	400	2	....	3	.. .	....	....	3	....	....	8	55	.....	55
....	....	....	....	10	2000	10	1	....	....	....	....	....	....	4	15	240	.....	240
....	....	....	....	5	1000	5	....	....	....	....	....	....	....	3	8	115	.....	115
....	....	....	....	11	2200	13	31	....	..	....	....	....	....	5	47	595	.....	595
....	....	....	....	10	2000	10	2	3	....	....	....	....	....	....	15	237	.....	237
....	....	....	....	28	5600	28	6	1	....	....	....	7	....	8	45	619	.....	779

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APPENDIX

STATEMENT of the Number and Value of Vessels, Boats, Nets, &c., for the year

Station.	Vessels and Boats employed Fishing.							Nets, their Number, Size.								
	Vessels.				Boats.			Gill Nets.			Seines.			Pound Nets.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	No.	Rods.	Value.	No.	Rods.	Value.	No.	Rods.	Value.
Lake Ontario Division. (Continued).			$			$				$			$			$
Ashbridge's Bay	..	..	....	....	2	30	3	7	926	255	....	....	....	....	....	....
Toronto Island and the Humber	....	....	....	....	7	295	13	17	2017	1020	3	145	810	....	....	....
Port Credit	....	....	....	....	1	5	2	....	.....	....	....	....	....	....	....	....
Springfield	...	....	....	.. ..	....	....	....	....	....	....	....	....	....	....	..	. .
Bronte	....	....	....	....	3	60	4	8	1255	522	....	....	....	....	....	....
Burlington Beach	....	....	....	....	18	755	41	32	2903	1453	13	965	5230	....	....	....
Burlington Bay	....	....	....	....	7	81	9	9	785	278	....	....	....	....	....	....
Wynona	....	....	....	....	1	30	2	4	473	260	....	....	....	....	....	....
Grimsby	....	....	....	....	2	60	4	3	327	108	....	....	....	....	....	....
Twenty Mile Creek	....	....	....	....	1	40	4	2	293	96	1	46	250	....	....	....
Port Dalhousie	....	....	....	....	1	10	1	4	456	278	1	36	200	....	..	....
Four Mile Creek	....	....	....	....	2	105	8	8	909	308	2	144	770	....	....	....
Two Mile Creek	....	....	....	....	1	40	4	6	601	206	1	50	278	....	....	....
Niagara	....	....	....	....	6	175	12	14	1452	525	4	149	420	....	....	....
Queenston	....	....	....	....	5	30	12	....	....	....	1	92	600	....	....	....
Navy Island	....	....	....	.. .	1	20	4	....	.....	....	....	....	....	....	....	....
Fort Erie	....	....	....	. ..	2	20	8	....	.....	....	2	20	150	....	....	....
Old Fort Erie	....	....	....	....	6	120	12	....	.....	....	....	....	....	....	....	....
Port Maitland	....	....	....	....	2	30	4	....	.....	....	1	25	140	....	...	....
Dunville and Haldimand	....	....	....	....	8	76	21	....	.....	....	7	111	675	....	....	....
Mount Healy	....	....	....	...	3	45	12	....	.....	....	3	45	225	....	....	....
Rainham	....	....	....	....	4	85	6	6	650	204	....	....	....	....	....	....
Hoover's Point	....	....	....	....	2	60	3	3	380	120	....	....	....	....	....	....
Sandusk Creek	....	....	....	....	2	30	2	1	130	42	1	15	75	....	....	....
Peacock's Point	....	....	....	....	1	20	2	1	109	36	....	....	....	....	....	....
Nanticoke	....	...	....	....	1	30	2	1	200	100	....	....	....	....	...	....
Woodhouse	....	....	....	....	3	85	7	9	1038	....	....	....	....	....	....	....
Pt. Ryersee	....	....	....	....	1	40	2	3	273	90	....	....	....	....	....	....
Winter's Creek	....	....	....	....	1	20	2	2	182	60	....	....	....	....	....	....
Lake Erie Division.																
Normandale	....	....	....	...	1	20	4	....	.....	....	1	50	275	....	....	....
Turkey Point	....	....	....	....	10	250	22	4	372	130	7	390	2200	....	....	....
St. William's	....	....	....	....	1	15	3	....	.....	....	1	37	200	....	....	....
Long Point	....	....	....	....	6	60	12	1	18	10	3	102	500	....	....	....
Port Burwell	....	....	.. .	....	1	10	3	....	.....	....	1	43	200	....	....	....
Olter (Vienna)	...	....	....	....	....	....	....	....	.....	....	....	....	....	....	....	....
Port Bruce	....	....	....	...	3	60	8	....	.....	....	3	109	500	....	....	....
Rond Eau	....	.. .	....	....	5	180	8	....	.....	....	2	60	350	3	....	1000
Point Pelee Island	....	....	....	....	2	400	6	....	.....	....	....	...	....	4	300	800
Point Pelee	....	....	....	....	7	325	21	....	.....	....	....	...	....	7	160	4000

* 572 Sturgeon, at 50

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R.—*Continued.*

together with the Yield and Value of Fish in the Province of Ontario, 1873.—*Continued.*

Value, &c.				Kinds, Quantities and Prices of Fish.												Value.		Total.
Hoop Nets.		Scoop Nets.		White Fish, brls.	White Fish, lbs.	White Fish, No.	Trout, brls.	Herring, brls.	Sciscoe, brls.	Maskinonge, brls.	Bass, brls.	Pike, brls.	Pickerel, brls.	Coarse Fish, brls.	Total No. of brls. of Fish.			
No.	Value.	No.	Value.													Fresh.	Pickled.	Value.
	$		$													$	$	$
....	....	....	....	....	.....	.....	....	10	....	....	...	27	....	10	47	370	.....	370
....	....	....	....	77	15400	77	....	10	44	....	....	72	....	78	282	2630	.....	2630
....	....	1	5	....	.....	.....	....	....	....	....	....	....	....	10	10	50	.....	50
....	....	1	5	....	.....	.....	....	....	....	....	....	....	....	9	9	45	.....	45
....	....	....	....	28	5600	28	8	....	52	....	....	....	....	....	88	1000	.....	1000
....	....	....	....	61	12200	61	3	151	191	....	....	99	4	72	600	4016	.....	4016
....	....	....	....	....	.....	.....	....	84	....	....	20	135	....	....	239	1333	.....	1333
....	....	....	....	45	9000	45	....	10	....	....	....	....	....	....	55	980	.....	980
....	....	....	....	4	800	4	....	....	....	....	....	....	....	....	4	80	.....	80
....	....	....	....	10	2100	10	....	....	....	....	10	25	....	....	45	500	.....	510
....	....	....	....	....	.....	.....	2	....	1	....	1	2	4	21	40	207	.....	207
....	....	....	....	47	9400	47	....	11	....	....	....	....	8	6	72	1069	.....	1069
....	....	....	....	25	5100	25	1	6	....	....	....	....	....	4	36	580	.....	580
....	....	....	....	54	10950	53	2	39	....	....	....	....	43	....	131	1546	.....	1546
....	....	....	....	....	.....	.....	....	55	....	....	2	....	12	34	114	537	.....	537
....	....	....	....	....	.....	.....	....	....	....	2	5	....	....	....	....	7	140	147
....	....	....	....	....	.....	.....	....	20	....	....	5	....	15	9	49	291	.....	291
....	....	....	....	....	.....	.....	....	....	....	....	....	....	180	9	49	1260	.....	1260
7	35	..	....	....	.....	.....	..	....	....	....	1	....	5	8	14	90	.....	90
12	24	....	....	....	.....	.....	....	....	....	9	5	5	71	395	467	2415	.....	2415
....	....	....	....	....	.....	.....	....	....	....	....	....	....	....	....	....	.....	.....	.....
....	....	....	....	21	4300	.....	....	....	....	....	....	....	....	....	21	215	.....	215
...	....	....	....	16	3000	.....	....	....	....	....	....	....	....	....	16	165	.....	165
....	....	....	....	3	600	.....	....	....	....	....	....	....	....	15	18	105	.....	105
....	....	....	....	2	400	.....	....	....	....	....	....	....	....	....	2	20	.....	20
....	....	....	....	1	300	.....	....	....	....	....	....	....	....	....	1	15	.....	15
....	....	....	....	21	4200	.....	....	....	....	....	....	....	....	....	22	210	.....	210
...	...	....	....	4	900	.....	....	....	....	....	....	....	....	....	4	45	.....	45
....	..	....	....	1	200	.....	....	....	....	....	....	....	....	....	1	10	.....	10
....	....	....	....	....	.....	.....	....	....	....	....	3	....	2	....	5	50	.....	50
....	....	....	....	105	21100	105	....	96	..	6	15	48	87	136	493	4297	.... ..	4297
....	....	....	....	....	.....	.....	....	....	..	1	3	3	7	3	17	151	....	151
....	....	....	....	....	.....	.....	....	....	..	3	22	20	28	11	84	664	.....	664
....	....	....	....	1	200	1	....	....	....	....	....	....	12	17	30	269	....	269
...	....	6	18	....	.....	.....	....	....	....	..	....	....	....	25	25	250	.....	250
....	....	....	....	....	.....	.....	.	2	....	1	58	3	95	75	234	1811	.....	1811
....	....	....	....	138	.....	.....	....	155	....	....	10	....	48	....	351	1689	....	1689
....	....	....	....	....	48347	.....	855	345	....	....	31	....	....	....	1234	4465	.....	4465
....	....	....	....	510	.. ...	.....	....	190	....	....	77	....	73	49	889	14820	....	9192

cents each, 1876.

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APPENDIX

STATEMENT of the Number and Value of Vessels, Boats, Nets, &c., for the year

Station.	Vessels and Boats employed Fishing.							Nets, their Number, Size,								
	Vessels.				Boats.			Gill Nets.			Seines.			Pound Nets.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	No.	Rods.	Value.	No.	Rods.	Value.	No.	Rods.	Value.
			$			$				$			$			$
Detroit River Division.																
Belle Isle					3	120	24				6	72	700			
Peach Island					1	25	6				1	12	250			
Peach Point					2	55	12				2	24	450			
Fighting Island					8	400	64				16	192	4000			
Bois Blanc Island					2	55	12				3	26	750			
Grass Island					1	25	6				1	12	200			
Turkey Island					1	40	6				1	12	200			
Detroit River					6	240	44				11	132	3200			
Lake St. Clair Division.																
Lake St. Clair and Mitchell's Bay							14				4					
River Thames							84	1			17					
River Sydenham							8				2					
Lake Huron Division.																
Bosanquet					11	110	44				11	791	2148			
Bayfield					6	1030	32	409	8289	2620						
Goderich					13	2255	39	940	20439	816						
Port Elgin					1	100	3	41	911	250						
Southampton					5	100	15	364	7923	3400						
Kincardine					6	1000	18	452	9851	4140						
Whitefish Island					1	50	8				1	50	800			
Inverhuron					1	150	3	65	1387	500						
Burk's Island					1	40	8				1	60	400			
Round Island					13	1595	34	590	11464	4900						
Rivière au Sable					2	20					2	130	400			
Big Island					2	350	9	175	2961	1320						
Lion's Head					2	100	4	3	180	35						
Georgian Bay Division.																
Vail's Point					4	160	8	8	480	384						
Cape Rich					6	450	12	12	720	720						
Meaford					2	160	4	4	240	216						
Thornbury					5	350	10	10	600	450						
Collingwood					6	500	15	15	1000	900						
Nottawasaga River					1	70	3	1	50	35	2	250	250			
Penetanguishene					2	80	4	2	100	60						

* Value of Boats, Nets, and Material

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R.—*Continued.*

together with the Yield and Value of Fish in the Province of Ontario, 1873.—*Continued.*

Value, &c.				Kinds, Quantities and Prices of Fish.													Value.		Total.
Hoops Nets.		Scoop Nets.		White Fish, brls.	White Fish, lbs.	White Fish, No.	Trout, brls.	Herring, brls.	Sciscoe, brls.	Maskinonge, brls.	Bass, brls.	Pike, brls.	Pickerel, brls.	Coarse Fish, brls.	Total No. of brls. of Fish.	Fresh.	Pickled.	Total.
No.	Value.	No.	Value.															
	$		$													$	$	$
....	....	....	....	400	.....	.....	....	....	....	....	....	....	....	....	400	6000	.....	6000
....	....	....	....	60	.....	.....	....	....	....	....	....	....	....	....	60	9000	.....	9000
....	....	....	....	70	.....	.....	....	....	....	....	....	....	....	....	70	1050	.....	1050
....	....	....	....	1000	.....	.....	....	500	....	....	....	....	....	....	1500	17000	.....	17000
....	....	..	....	110	.....	.....	....	....	....	....	....	....	....	....	110	1650	.....	1650
....	....	....	....	30	.....	.....	....	....	....	....	....	....	....	....	30	450	.....	450
....	....	....	....	50	.....	.....	....	....	....	....	....	....	....	....	50	750	.....	750
....	....	....	....	425	.....	.....	....	....	....	....	....	....	....	....	425	6375	.....	6375
5	....	....	....	....	.....	.....	....	....	....	....	....	....	....	....	....	1000	.....	* 1000
....	....	....	....	....	.....	.....	....	....	....	....	....	....	....	....	....	7877	.....	† 7877
....	....	....	....	....	.....	.....	....	....	....	....	....	....	....	....	....	.....	.....	‡
....	....	....	....	955	191000	.....	....	107	....	....	....	....	82	....	1144	2475	3475	5950
....	....	....	....	865	171000	.....	355	200	....	....	....	....	....	....	1420	9740	.....	9740
....	....	....	....	1850	.....	825	....	....	....	....	....	....	....	....	2675	18725	.... ..	18725
....	....	....	...	35	7000	.....	15	....	....	....	....	....	....	....	50	350	....	350
....	....	....	....	760	152000	.....	320	....	....	....	....	....	....	....	1080	7560	. .....	7560
....	....	....	....	820	164000	.....	340	....	....	....	....	....	....	....	1160	6825	1295	8120
....	....	....	....	....	.....	.....	....	600	....	....	....	....	....	....	600	.....	3000	3000
....	....	....	....	100	20000	.....	60	....	....	....	....	....	....	....	160	1120	.....	1120
....	....	....	....	....	.....	.....	....	400	....	....	....	....	....	....	400	.....	2000	2000
....	....	....	....	535	109000	.....	165	462	....	....	....	....	....	....	1162	4900	2310	7210
....	....	....	....	....	.....	.....	....	800	....	....	....	....	....	....	800	.....	3200	3200
....	....	....	....	205	41000	.....	95	110	....	....	....	....	....	....	410	.....	2620	2620
....	....	....	....	30	.....	.....	25	....	....	....	....	....	....	....	55	.....	355	355
....	....	....	....	120	2000	.....	100	5	....	....	....	....	....	....	225	805	700	1505
....	....	....	....	300	.....	.....	350	....	....	....	....	....	....	....	650	1060	3190	4250
....	....	....	....	100	.....	.....	150	5	....	....	....	....	....	....	255	1000	675	1675
....	....	....	....	300	.....	.....	400	....	....	....	....	....	....	....	700	2600	2000	4600
....	....	....	....	350	.....	.....	500	10	....	....	....	....	....	....	860	2500	3150	5650
....	....	....	....	78	.....	.....	90	40	....	....	....	....	....	20	228	580	798	1378
....	....	....	....	5	.....	.....	7	....	....	....	....	....	....	....	12	79	.....	79

employed, $648. † Ditto, $1,189. ‡ Ditto, $175.

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APPENDIX

STATEMENT of the Number and Value of Vessels, Boats, Nets, &c., for the year

Station.	Vessels and Boats employed Fishing.							Nets, their Number, Size,								
	Vessels.				Boats.			Gill Nets.			Seines.			Pound Nets.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	No.	Rods.	Value.	No.	Rods.	Value.	No.	Rods.	Value.
			$			$				$			$			$
Lake Huron Division.																
Thessalon and Grant Island	....	....	....	....	7	700	15	100	8000	2000	....	....	....	....	....	....
Missasaga Island	....	....	....	....	16	1000	32	160	3200	800	....	....	....	....	....	....
Killarney	....	....	....	....	8	800	16	100	2500	1000	....	....	....	....	....	....
Fox Islands	....	....	....	....	10	600	20	80	1600	400	....	....	....	....	....	....
Providence Bay	....	....	....	....	3	200	6	25	500	125	....	....	....	....	....	....
Michael's Bay	....	....	....	....	11	680	22	110	2200	550	....	....	....	....	....	....
Green Island and Duck Lake	1	20	1600	3	10	1000	20	450	9000	3000	....	....	....	....	....	....
Ullin Mills	....	....	....	....	3	200	6	30	600	150	....	....	....	....	....	....
La Cloche	....	....	....	....	1	100	2	5	100	30	....	....	....	....	....	....
Lonely Island	....	....	....	....	8	500	16	100	2000	500	....	....	....	....	....	....
West Bay	....	....	....	....	20	1000	40	160	3200	800	....	....	....	....	....	....
Sheshegwaning	....	....	....	....	15	900	30	150	3000	750	....	....	....	....	....	....
Bayfield Sound	....	....	....	....	5	300	10	50	1000	250	1	10	100	....	....	....
Lake Wolsey	....	....	....	....	5	250	10	40	800	200	....	....	....	....	....	....
Mink Islands	....	....	....	....	1	10	2	10	200	50	....	....	....	....	....	....
Lake Simcoe Division	..	....	....	....	8	250	17	9	3250	425	2	1600	150	....	....	....
Lake Superior Division.																
St. Mary's Rapid	....	....	....	....	8	264	16	....	....	....	....	....	....	....	....	....
Dog River	....	....	....	....	1	200	4	....	....	....	1	40	75	....	....	....
Pie Island	....	....	....	....	6	180	12	12	264	60	....	....	....	....	....	....
Pay's Plat, N.	....	....	....	....	1	200	5	7	154	35	....	....	....	....	....	....
Grand Shaganash	....	....	....	....	1	75	6	7	154	35	....	....	....	....	....	....
Lake Nepigon	....	....	....	....	24	445	34	59	1178	175	....	....	....	....	....	....
Roche de Bout	....	....	....	....	1	100	5	6	132	30	....	....	....	....	....	....
Gros Cap	....	....	....	....	1	50	2	6	132	30	....	....	....	....	....	....
Mamainse	....	....	....	....	1	200	2	8	152	80	....	....	....	....	....	....
Wood Location	....	....	....	....	1	50	2	4	76	20	....	....	....	....	....	....
Fort William	....	....	....	....	1	75	4	....	....	....	1	40	75	....	....	....
Pay's Plat	....	....	....	....	1	100	2	6	132	30	....	....	....	....	....	....

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R.—*Continued.*

together with the Yield and Value of Fish in the Province of Ontario, 1873.—*Continued.*

Value, &c.				Kinds, Quantities and Prices of Fish.												Value.		Total.
Hoop Nets.		Scoop Nets.		White Fish, brls.	White Fish, lbs.	White Fish, No.	Trout, brls.	Herring, brls.	Sdsoes, brls.	Maskinongé, brls.,	Bass, brls.	Pike, brls.	Pickerel, brls.	Coarse Fish, brls.	Total No. of brls. of Fish.			
No.	Value.	No.	Value.													Fresh.	Pickled.	Value.
	$		$													$	$	$
....	....	....	....	150	....	.....	350	....	....	....	....	....	....	....	....	.....	3000	3000
....	....	....	....	250	.....	.....	150	....	....	....	....	....	....	....	....	.....	2400	2400
.. .	....	....	....	100	.....	.....	80	....	....	....	....	....	....	....	....	.....	1080	1080
....	....	....	....	50	.....	.....	25	....	....	....	....	....	....	....	....	.....	450	450
...	....	....	....	20	.....	.....	5	....	....	....	.. .	....	....	....	....	.....	150	150
....	....	....	....	80	.....	.....	5	....	....	....	....	....	....	....	....	.....	510	510
....	....	....	....	500	.....	.....	750	....	....	....	....	....	....	....	....	.....	7500	7500
....	....	....	....	25	.....	.....	25	....	....	....	....	....	....	....	....	.....	300	300
....	....	....	...	10	.....	.....	10	....	....	....	....	....	....	....	....	.....	120	120
....	....	....	.. .	30	.....	.....	20	....	....	....	....	....	....	....	....	. ...	300	300
....	....	....	....	350	.....	.....	150	....	....	....	....	....	....	....	....	.....	3000	3000
....	....	....	....	350	.....	.....	150	....	....	....	....	....	....	....	....	.....	3000	3000
...	....	....	....	50	.....	.....	25	....	....	....	....	....	....	....	....	.....	450	450
....	....	....	....	50	.....	.....	...	....	....	....	....	....	....	....	....	.....	300	300
....	....	....	....	32	.....	150	6	....	....	....	....	....	1	....	.. .	15	232	247
....	....	..	....	....	.....	4940	78	....	....	1	75	....	2	....	....	1677	.....	1677
....	....	9	27	304	.....	3060	....	....	.. .	....	....	....	....	....	....	300	1520	1820
....	....	....	....	.....	.....	.....	30	....	....	....	....	....	....	....	....	.....	120	120
....	....	....	....	12	.....	.....	48	....	....	....	....	....	....	....	....	.....	252	252
....	....	....	....	30	.....	.....	40	....	....	....	....	....	....	....	....	.....	310	310
. ..	....	....	....	600	.....	.....	175	....	..	. ..	....	....	....	....	....	.....	3700	3700
....	....	....	....	38	....	4000	....	....	....	....	....	....	....	....	....	400	160	560
....	....	....	....	187	.....	.....	....	....	....	....	....	....	....	....	....	.....	935	935
....	....	....	....	10	.....	.....	5	....	..	....	....	....	....	....	....	.....	70	70
...	....	....	....	84	.....	.....	60	....	....	..	....	....	. ..	....	....	.....	660	660
....	....	....	....	30	.....	.....	24	....	....	....	....	....	....	....	....	.....	246	246
....	....	....	....	980	.....	.....	1050	....	..	....	....	....	....	....	....	.....	9140	9140
....	....	....	....	....	.....	.....	58	....	....	...	....	....	....	....	....	.....	232	232

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APPENDIX S.

RECAPITULATION of the Number and Value of Vessels, Boats, Nets, &c., together with the Yield and Value of Fish in the Province of Ontario, for the year 1873.

FISHING VESSELS, BOATS AND NETS EMPLOYED.

—	Number.	Tonnage.	Value.	No. of Men.	Rods.	Value.
			$			$
Vessels	3	110	2,080	277		
Boats	643		31,107	1,792		
Gill Nets	5,761				167,280	53,295
Seines	288				6,997	31,973
Pound Nets	14				1,335	9,500
Hoop „	379					2,697
Scoop „	25					79
Total	7,113	110	33,187	2,069	175,612	97,454

KINDS, QUANTITIES AND PRICES OF FISH.

—	Barrels.	Pounds.	Number.	Value.		Total Value.
				Fresh.	Pickled.	
				$	$	$
White Fish	16,453					
„		1,430,514				
„			43,586			
Trout	9,188					
Herring	7,348					
Sciscos	288					
Maskinonge	143					
Bass	731					
Pike	1,248					
Pickerel	1,055					
Coarse Fish	2,806					
Total	39,260	1,430,514	43,586	223,505	69,585	₹ 293,090

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APPENDIX T.

SYNOPSES OF FISHERY OVERSEERS' REPORTS IN THE PROVINCE OF ONTARIO, FOR THE SEASON OF 1873.

BROCKVILLE AND CORNWALL DIVISIONS.

JOHN MOONEY, *Overseer.*

JOHN WALLACE, HENRY HUNT, } *Guardians.*

Reference to Appendix N. shows an increase in the yield of fish in this division over the past year.

The total number of barrels of fish for 1872 was 103 ; while, during the past season, the catch was 182, showing an increase of 79 barrels, equal to a total increase in value of nearly $700.

No infraction of the fishery laws are reported. The fishermen appear quite content with the judicious administration of the fishery laws in this division.

NEWCASTLE AND COBOURG DIVISIONS.

SAMUEL WILMOT, *Fishery Officer.*
JAMES K. CAMERON, *Overseer.*

A special report of the operations of Mr. Wilmot, who has charge of the Government Fish-breeding Establishment at Newcastle, will be found in Appendix N.

By reference to Appendix R, it will be seen that the catch of fish in this division for the past season was 650 barrels, a large proportion of which is trout. The total value of the fish caught during the season amounted to $6,550, and was chiefly disposed of in Montreal, the balance being used for local consumption.

PRINCE EDWARD COUNTY DIVISION.

JOHN G. HICKS, WM. PLEWS, W. A. PALEN, PETER HUFF, JR., JOSEPH PIERSON, } *Overseers.*

Fishing in this division during the past season has been fair. Prices ruled higher, and fishermen were quite satisfied with their season's catch ;—there can be no doubt that the proper administration of the fishery laws is already telling favorably in the improved state of the fisheries in Prince Edward County. The following statement shows the yield and value of the fish taken in this district during the past two years :—

	1872.	1873.
White fish, barrels	1,449	1,095
„ fresh, lbs	.....	324,709
„ „ No.	.....	27,022
Trout, barrels	148	194
Herring „	140	195
Pike and Bass, barrels	150	60
Pickerel „	15	.....
Coarse fish „	5	.....
Total	1,907	1,554
Value	$15,118	$16,877

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BAY OF QUINTE DIVISION.

CHARLES WILKINS, *Overseer.*

The yield of the fisheries in this division was much larger than for the two previous years.

In 1871, the number of barrels of fish caught was 2,592; in 1872, 3,115 barrels; and this season, 4,178.

The total value of the produce of the fisheries during the past season amounted to $22,588, against $12,000 during the year 1872.

The local markets were well supplied, besides a large portion of the fish being also exported.

The inland lakes, which formerly used to be mercilessly fished by parties from the United States who took their fish across the border, have been well guarded, and this traffic stopped to a great extent. The fish taken by settlers in certain parts of the country adjacent to the lakes are for domestic use.

When the projected railways in rear of the Bay of Quinte are built, the fish of these inland lakes will be more sought after, and will form a considerable source of revenue.

The completion of the fish slides on Salmon and Moira Rivers enables the fish to ascend these streams, and they are now taken in large numbers.

ERIE, NIAGARA AND PART OF LAKE ONTARIO DIVISION.

JOHN W. KERR, *Overseer.*

The following table shows the sub-divisions of this district, together with the number and value of barrels of fish caught in each during the years 1872 and 1873:—

	1872.		1873.	
	Brls.	$ value.	Brls.	$ value.
1st. Whitby to Bronte.....	858	7,036	577	5,974
2nd. Bronte to Port Dalhousie...	774	6,692	983	7,116
3rd. Port Dalhousie to Queenston.	406	3,561	353	3,732
4th. Queenston to Port Ryerse...	763	5,408	663	4,838
5th. Port Ryerse to Port Talbot..	808	6,125	889	7,502
	3,609	28,822	3,465	29,162

The figures below show the yield of the fisheries, the kinds and value of fish, for the past two years in this division:—

	1872.	1873
White fish, barrels.....	850	572
„ fresh, lbs.....	....	115,258
„ do. per 100.....	....	524
Trout, barrels.....	166	55
Herring „	592	501
Sciscos „	219	288
Maskinonge, barrels.....	8	22
Pike and Bass „	320	602
Pickerel „	483	573
Coarse fish „	972	962
Total.....	3,610	3,575
Value.....	$28,800	$38,782

The above statement exhibits a considerable falling off in the catch of trout and herring compared with that of 1872. In regard to this, the Overseer states that trout

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swam very high this year, and consequently were not caught in the gill nets. Herring appeared much later in the season than last year, and although not quite so numerous as formerly, the fish were of excellent size and quality. The Overseer attributes the decrease of this fish to spearing, and recommends the disallowance of this practice in Burlington Bay for a term of years.

The streams frequented by salmon between Whitby Harbor and Bronte, comprise Lynd's Creek, Duffin's Creek, the Rouge, Highland Creek, the Humber and Credit Rivers. In Duffin's Creek salmon were abundant; from one hundred to one hundred and twenty having been observed on the spawning beds. Guardians were placed in charge during the months of October and November, until the fish left the stream. No salmon were noticed in Lynd's Creek this season, although they were abundant there in 1871. It is probable that, for want of attention on the part of the guardian of this stream, its mouth became choked with sand, and the fish were unable to get up. Two salmon were observed in the Highland Creek this season during the spawning period, and a few also in the Rouge. It is found that in the streams where few or no fish made their appearance during the spawning season, the salmon were prevented from entering the streams on account of the accumulation of sand at their mouths. This was caused by the action of the water washing the sand up. One of these streams, Highland Creek, had to be opened several times during the course of the present year; but only two fish were found in it during the spawning period. Several salmon were also seen in the River Credit.

The catch of Blueback herring off Burlington Beach was very good; the fish being of excellent quality, and of a very large size.

White fish gill-net fishing between Rainham Centre and Port Ryerse was not as good as formerly, owing to a prevalence of stormy weather; but the fish were of an excellent quality and of large size, and brought remunerative prices. At Turkey Point, in Lake Erie, fishing was very good; pickerel of a large size and in considerable numbers were caught. The catch of maskinonge was also superior to that of last season, some of the fish weighed as much as 40 lbs. Very few infractions of the fishery laws occurred during the present season. The few cases which came to the knowledge of the Overseer were treated in a kind though firm manner, calculated to prevent a reoccurence of violations in future.

Mr. George A. Lacey commenced operations in artifically breeding speckled trout during the fall of 1869 at Hillsburg, and that year collected 5,000 eggs, out of which 3,000 were hatched. In 1870 he placed 20,000 young fry in the waters of the Credit River, and had during the present season 1,000 parent fish, besides several thousand fry of last year's hatching. He expects this year to be able to hatch 150,000 eggs. Mr. Hull, of Erie Village, built during the present season five ponds, containing 2,000 parent fish and fully 2,500 fry, besides 500 eggs in his hatching troughs.

WOLFE AND AMHERST ISLANDS DIVISION.

P. KIEL, *Overseer.*

Mr. Kiel reports that salmon trout were to be found near Wolfe Island in larger quantities during the present season than for many seasons past, but that owing to continuous heavy gales and rough weather the catch of fish did not exceed that of other years. White fish kept further from the shore this season than usual. The fishery laws were well observed in this division, and seem to give satisfaction, owing to the increased number of fish and the general benefit arising from their judicious regulations. Canadian markets were well supplied during the year, the surplus of fish being exported to the United States.

The following is a statement of the yield and value of the fisheries in this division for the past two years:—

	1872.	1873.
White fish, barrels	310	151
" fresh, lbs	....	1,500
" " per 100	....	3,950

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Trout, barrels	554	418
Herring „	12	12
Pike and Bass, barrels	77	182
Pickerel „	27	56
Coarse fish „	166	217
Total	1,146	1,036
Value	$8,310	$8,945

The above statement shows that the catch of salmon trout was somewhat less this season than last year, but was however considerably over the catch of 1871; all other kinds of fish being in excess of last year. The value of fish caught in this division during the present season shows an increase of $600 over the catch of last year, and fully 33 per cent. over that of 1871.

ROND EAU DIVISION, LAKE ERIE.

JOHN MCMICHAEL, *Overseer.*

The catch of fish in this division is somewhat below that of last year, owing to the fishermen not having made their preparations in time for the spring fishing. No violation of the fishery laws are reported.

The following statement exhibits the catch of fish and its value for the past two seasons in this division:—

	1872.	1873.
White fish, barrels	125	138
Herring „	124	155
Pike and Bass, barrels	30	10
Pickerel „	79	48
	358	351
	$1,936	$1,689

The decrease in value arises chiefly from the fact that fishermen were much later than usual getting their nets ready in time for spring fishing. No violation of the fishery laws occurred in this division during the past season.

DETROIT RIVER AND WESTERN LAKE ERIE DIVISION.

EDWARD BOISMIER, *Overseer.*

The following table of the fisheries of this division represents a considerable increase over the previous year, being nearly one-third greater than the yield of 1872:—

	1872.	1873.
Whitefish, barrels	2,993	2,655
„ fresh, lbs	....	48,347
Trout, barrels	....	855
Herring, „	658	1,035
Pike and Bass, barrels	93	111
Pickerel „	....	73
Coarse fish „	....	49
Sturgeon „	....	572
Total	3,744	4,778
Value	$42,333	$61,776

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This overseer reports that, on account of the heavy and continuous gales prevailing during a great part of the fishing season, fishermen lost several of their nets, and were unable to prosecute their fisheries as well as usual; the yield would otherwise have been much larger; it however represents a fair increase over the previous year, and is nearly four times larger than in 1871.

SYDENHAM AND LAKE ST. CLAIR DIVISION.

F. McRae, *Overseer.*

The value of the fisheries in this division for the year 1872 was $8,255, showing an increase of $200 over 1871; and during the past season the yield was $8,877, an increase of $600 over 1872. This amount would have been larger had the usual amount of fishing been done on the upper part of the Thames and in the Sydenham River. The value of the fish speared during the past season is reported at over $900, which would increase the total value to $1,500. This Overseer recommends that a guardian be appointed at Cashmere to assist in looking after the dip-net fishery, which is assuming great importance.

GODERICH DIVISION.

A. C. McKinnon, *Overseer.*

The following statement shows the yield and value of the fisheries in this division for the past two years:—

	1872.	1873.
White fish, barrels	3,329	3,670
„ fresh, lbs	....	732,000
Trout, barrels	1,276	1,180
Herring, „	64	307
Pickerel, „	124	82
Coarse fish „	285	.....
Total	5,078	5,239
Value	$36,737	$34,415

The fishing season was short, owing to the stormy weather which prevailed during a considerable portion of the time, otherwise the catch would probably have been much larger. As it is, the yield is 161 barrels more than in 1872, although the value falls below that year by over $2,000.

Local markets were well supplied with fish, the surplus being sold to American dealers. No violations of the fishery laws are reported.

RIVER ST. CLAIR DIVISION.

S. A. Macvicar, *Overseer.*

No returns have been received from this officer of the yield of the fisheries in hi division for the last four years.

SAUGEEN DIVISION.

It being impossible to obtain any information from the local Fishery Overseer, Mr. Eastwood, respecting the yield of the fisheries inthis division, the Overseer of the Goderich district was directed to attend to that work. His statistics will be found at Appendix R. He states that the Saugeen fishermen were as successful as those of his own division; from personal observation, and such information as he could gather, he is under the

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impression that these fishermen are inclined to respect the fishery laws, with the exception of those frequenting the Fishing Islands.

Mr. McKinnon was unable to visit all the stations in this division owing to the rough weather during the fall.

The following statement shows the yield and value of the fisheries in this division for 1872-73 :—

	1872.	1873.
White fish, barrels	1,875	2,455
,, fresh, lbs	....	(493,000)
Trout, barrels	1,474	995
Herring ,,	2,270	2,372
Total	5,619	5,822
Value	$32,057	$35,180

INDIAN PENINSULA DIVISION.

G. S. Miller, *Overseer.*

Notwithstanding the storm which occurred during the fall fishing, by which several fishermen lost their boats and nets, the returns show a very large increase over both the previous years. The following statement exhibits the total yield and value of the catch of fish in this division for the past two years :—

	1872.	1870.
White fish, barrels	850	1,283
,, fresh, lbs	....	2,000
Trout, barrels	440	1,622
Herring ,,	....	60
Sturgeon ,,	30	....
Coarse fish ,,	....	20
Total	1,320	2,985
Value	$6,450	$19,552

No infractions of the fishery laws are reported.

LAKE HURON AND GEORGIAN BAY DIVISION.

G. B. Abrey, *Overseer.*

The former Overseer, Wm. Plummer, Esq., being compelled to remove to Toronto on being promoted to the situation of Superintendent of Indian Affairs there, Mr. Abrey was appointed in his place.

Fewer fishing licenses were taken this season than last year. The weather during the early portion of the fall was very stormy, and the season closed early; from these causes the returns fall short.

The following table shows the yield and value of the fisheries in this division for the past two seasons.

	1872.	1873.
White fish, barrels	3,923	2,047
Trout	2,182	1,751
Pickerel	....	1
Total	6,105	3,799
Value	$42,735	$22,807

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LAKE SUPERIOR DIVISION.

JOSEPH WILSON, *Overseer.*

The produce of the fisheries in this division for the past season shews a considerable increase over the two previous years. The following statement gives the yield and value of the fisheries for 1872 and 1873 :—

	1872.	1873.
White fish, barrels	1,958	2,275
„ fresh, per hundred lbs.	....	7,000
Trout, barrels	1,252	1,500
Pickerel	70	....
Total	3,282	3,775
Value	$19,384	$18,045

The overseer visited all the fishing stations in his division, and reports that the rough weather in the fall caused great damage to the nets, and, unfortunately, in one instance, the loss of a boat and three men at St. Joseph's Island Fishery.

St. Mary's Rapids fishery was more productive than for several years past. The fishery laws were well observed, and none of the products of the fisheries of this division was exported. The Overseer suggests that foreigners be prohibited from salting trout in the neighbourhood of the Neepigon River, and recommends that a guardian be appointed at Red Rock to attend to this and to issue licenses for angling in Neepigon River and neighbouring trout streams. This suggestion has already been carried out.

SIMCOE DIVISION.

A. MCKENZIE, *Overseer.*

Fishing in this division is steadily improving. The yield of the fisheries for the past season of 1872 and 1873 is shown by the following statement :—

	1872.	1873.
White fish, barrels	60	....
„ number fresh	.....	4,940
Trout, barrels	46	.....
„ number, fresh	.....	2,930
Herring, barrels	7	.....
Maskinonge „	.....	1
Bass „	.....	75
Pickerel „	.....	2
Total	113	78
Value	$1,010	$1,677

No infractions of the fishery laws are reported.

RIDEAU DIVISION.

C. C. JOYNT, *Guardian.*

In this division, which comprises the Rideau River and Lake, there are reported to be 55 small boats worth $660, or $12 each, and 234 hoop-nets, valued at $468. Bass pike, pickerel, and coarse fish were taken, making altogether a total of 599 barrels, valued at $3,594. The fish were all disposed of in Canadian markets.

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APPENDIX U.

REPORT ON FURTHER DEEP-SEA DREDGING OPERATIONS IN THE GULF OF ST. LAWRENCE, WITH NOTES ON THE PRESENT CONDITION OF THE MARINE FISHERIES AND OYSTER BEDS OF PART OF THAT REGION.

To the Hon. A. J. SMITH,
Minister of Marine and Fisheries.

SIR,—I have the honor to submit the following Report on deep-sea dredging operations prosecuted during the last summer, under the immediate auspices of your Department, and on behalf of the Natural History Society of Montreal.

Your obedient servant,
J. F. WHITEAVES.

INTRODUCTORY.

The instructions received from the Department prior to my leaving Montreal were, to use my own judgment as to the selection of points for examination during the early part of the summer, and later on to devote a portion of the time to an investigation into the present condition of the oyster beds of Northumberland Straits and of the coast of New Brunswick.

This being the case, the plan of operations which was ultimately carried out, was to devote a week or two to dredging in the greatest depths between Anticosti and Gaspé, then to make a complete circuit of Prince Edward Island, examining first the entrance to the Bay des Chaleurs, the Orphan and Bradelle Banks, the area between Cape Breton and Prince Edward Island, and, lastly, the whole of Northumberland Straits on both sides, back to the Bay des Chaleurs.

The Government schooner *J. H. Nickerson*, which for nine weeks was exclusively employed in these investigations, is a vessel of some 70 tons burthen. She carried only three sails, and had no flying-jib, staysail, or gaff-topsail. The want of these was often felt in fine weather, when the breeze was very light. Her crew consisted of the captain, six seamen, a carpenter, steward (who also acted as cook), and steward's boy. We were authorized to hire two or three additional hands if required, but did not succeed in getting even one man to strengthen our small crew.

Our apparatus consisted of two dredges, fitted with inner bags of closely netted heavy seine twine, and outer ones of untanned hide; sifters, two deep-sea leads, and between 500 and 600 fathoms of $1\frac{3}{4}$ inch manilla rope. We also constructed rough but tolerably effective towing nets and "tangles," both of which did good service. A small winch would have saved much heavy manual labor, and it would have been better if we had been provided with rope enough to use a dredge and tangles on separate lines at the same time, especially in very deep water. Although the weather was exceptionally stormy, and many other grave disadvantages had to be contended with, the number of specimens collected was much larger than on any previous occasion. This is mainly to be attributed to the circumstance that, for the first time, the schooner and her crew were placed entirely at my disposal during the greater part of the summer.

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In this report the following order will be observed:—First, an account will be given of the cruises, which were essentially four in number. Unnecessary details will be omitted; and as the number of casts of the dredge was about seventy, no attempt will be made to give full particulars respecting each. The second part will consist of a summary of the zoological results of the expedition; and in the third and last, some notes will be given bearing on the present condition of the valuable marine fisheries of the Gulf, and on that of the oyster beds of Northumberland Straits and of the northern coast of New Brunswick. It may be well to premise that I left Montreal on the 14th of July, 1873, and returned home on the 13th of September following.

PART I.—ABSTRACT OF DIARY OF PROCEEDINGS.

CRUISE I.

At daybreak on Friday, July 18th, we left Gaspé Basin, bound for the centre of the mouth of the river between Anticosti and the Gaspé peninsula. From July 19th to about noon on the 24th we were occupied (Sunday excepted) in dredging in the greatest depths we could find, and with remarkable success. All through these cruises we remained on our ground at night, and often all day on Sundays, so as to lose no time. A little after noon on Thursday, July 24th, a strong northerly breeze sprung up, accompanied with rain, so we tacked ship and stood in towards Gaspé Bay for shelter. From the 25th to the 28th of July, both days included, we were detained in Gaspé Bay by head winds. We managed, however, to do some dredging here, and although I had explored this locality pretty thoroughly in 1867 and 1869, several interesting novelties were collected, especially among the sponges, echinoderms, annelids and crustacea. Set sail again on Monday evening, July 28th, but managed to get only one good day's dredging in the centre of the channel between Anticosti and the south shore, when we were compelled to return to Gaspé Bay by strong northerly breezes and dense fog. We anchored in Gaspé Basin on the evening of July 30th, and remained there two days for supplies.

During this cruise we got 14 more or less successful casts of the dredge, exclusive of three in Gaspé Bay. Of these, Nos. 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13 and 14 were in depths of from 110 to 220 fathoms. Nos. 1 and 5 were in 50 and 40 fathoms respectively. Observations on the temperature of the deep-sea mud gave almost exactly the same results as on previous occasions. The general average temperature is about 38° or 39° Fahr., but near the centre of the mid-channel between Anticosti and the south shore, though nearer to the island than the main land, there are indications of a warmer bottom current. The instruments we had did not enable us either to try and define the limits of this current, or to examine and see if the water was fresh or less salt than usual where the highest reading was registered. The circumstance that there appears to be no difference between the animal life existing at places where the temperature is higher and where it is about the average, seems to be unfavorable to the notion of the existence of a local bottom current of fresh water. During our stay in Gaspé Bay we noticed that mackerel were particularly abundant there.

CRUISE II.

Leaving Gaspé Basin about noon on the 2nd of August, we attempted to beat down the bay; but, owing to an almost dead calm, made little progress, and anchored off Douglastown for the night. The next day, Sunday, August 3rd, we again set sail, but finding that there was a heavy fog outside and a stiff breeze blowing, anchored in Boisbrulé Cove. On Monday, August 4th, we were a little more successful, for although a strong N.N.E. breeze was blowing and there was a heavy sea on, we got outside Gaspé Bay and under the lee of Bonaventure Island. We were bound for the Orphan Bank, but the wind was too high and the sea too heavy to dredge except in sheltered places. The remainder of the day was accordingly devoted to dredging off the northern entrance to the Baie des Chaleurs, between Cape Despair and Grand Pabou, where we got two

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hauls, one in 70 fathoms, measured (No. 15), and one (No. 16) in 50 fathoms. A little before midnight, as the sea went down and the breeze moderated, we made for the Orphan Bank, and spent three days (August 5th to 7th, inclusive) dredging on it. On this bank we dredged in ten different places (Nos. 17 to 26 inclusive), and got as good an idea as the dredge would give of its structure and of the animal life upon it. About sunset on Tuesday, August 5th, we got magnificent mackerel fishing on this bank. Cod taken here had herrings, crabs *(Hyas)*, shells *(Yoldia limatula)*, and *Entomostracans* in their stomachs. On floating *Laminariæ*, probably drifted from shore, fine living specimens of *Parypha crocea*, Ag. were collected. On Wednesday evening, August 6th, a little before sunset, a strong southerly breeze sprung up, so we tacked ship and stood in for Point Miscou, under the lee of which we anchored a little before midnight. Thursday, August 7th, at 9 a.m. the wind veering to the S.W., we hove up the anchor and ran round under the N.E. side of Miscou Island, and anchored there all day in four fathoms water. Noticed 22 American schooners anchored near us. Heavy rain all day; no dredging done. Friday, August 8th, set sail at daybreak for the Bradelle Bank, and on our way got one cast (No. 27) between it and Miscou Island, in 45 fathoms, mud and stones; the temperature of the mud was 42° Fahr. We got one haul of the dredge on Friday and two on Saturday (Nos. 28 to 30 inclusive) on the Bradelle Bank; mackerel fishing on this bank also was excellent. At noon on Saturday, August 9th, the vessel's head was put for the east point of Prince Edward Island. Sunday, August 10th, anchored off Souris, Prince Edward Island, all day, and went ashore in the afternoon. The common edible periwinkle of England *(Littorina littorea)* is common at the mouth of the Colville River; it was subsequently collected also at Charlottetown. Bonaparte's gull was frequent here, as were also terns and various wading birds. Monday, August 11th, left Souris early in the morning bound for Pictou, where we arrived a little after noon. After dinner I went with Mr. M. Campbell to the marine slip at that port. Through the kindness of Mr. James MacPherson, the superintendent of the slip, I had an opportunity of examining the ravages of the ship worm in the cradle of the roller frame. Specimens of what I believe to be *Teredo navalis* were collected boring into black birch. A schooner from Newfoundland, just placed on the slip, had her hull obviously burrowed by a *Teredo*, but of what species could not be ascertained. Mr. MacPherson also gave me specimens of wood burrowed into by ship worms, which originally formed part of the hull of a ship from Sydney, Cape Breton, but as there were no shells or pallets in the burrows the species could not be determined. I did not, however, succeed in getting living ship worms at Pictou, although they appear to be very common, and are believed to be doing much injury to fixed structures as well as to ships in that port. Oysters are said to be occasionally found in the bay, but not in large numbers. In this cruise we got 16 hauls of the dredge (Nos. 15 to 30 inclusive), in depths of from 20 to 70 fathoms.

The Orphan Bank, which is situated off the entrance to the Bay des Chaleurs, is a stony patch, as are most of the inshore fishing banks, many of which are not indicated or defined on the charts. The masses of rock are usually large pieces of a reddish sandstone (often perforated by two species of boring bivalves, the *Saxicava rugosa* and *Zirphæa crispata*), with a small proportion of pieces of Laurentian gneiss. &c. Animal life is profusely abundant here, which is undoubtedly the reason why cod, mackerel, &c., frequent this and similar banks in such enormous numbers. Soft-bodied organisms of various kinds give a special facies to this particular one. These are encrusting sponges; tunicates, of many genera and species, some of unusual size; an *Actinia (Metridium)*; the common northern *Alcyonium (rubiforme); Alcyonidium gelatinosum;* hydrozoa and polyzoa, in great profusion, &c., &c. Among the harder forms are an abundance of the commoner echinoderms, with a few scarce species; large calcareous polyzoa; and a large number of fine crustacea. Shells were tolerably numerous, though not nearly so much so as on the Bradelle Bank, and annelids were relatively scarce.

The Bradelle Bank is also a stony patch, but the pieces of rock are usually small, and there is a greater admixture of gravel, sand, and mud on this bank than upon the Orphan. Soft-bodied animals appear to be scarce upon the former, and shells occur in

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unusual abundance. The assemblage of hydrozoa, echinoderms, polyzoa, and crustacea, is much the same on both banks, though a few peculiar species were found on each. The rarer forms found at these two places will be found catalogued in the second part of this report. While the animal life of the shores of Cape Breton (except in deep water), of those of the Magdalen group and of Prince Edward Island, as well as that of the whole of Northumberland Straits up to the southern entrance to the Baie des Chaleurs, is of an Acadian or southern type, the fauna of the Orphan and Bradelle Banks has a decidedly Arctic or northern character. The Bradelle Bank, in particular, presents the phenomenon of a small patch, tenanted by an assemblage of marine animals which usually inhabit very cold water, and almost entirely surrounded by another series, which are for the most part prevalent where the bottom is warmer and more affected by surface conditions of temperature.

CRUISE III.

Leaving Pictou at daybreak on Wednesday, August 13th, we dredged to the S.W (No. 31) and S.S.W. (Nos. 32, 33, and 34), of Pictou Island. Off Pictou Island the towing net was very successfully used. Among the specimens taken in this way were a curious crustacean *(Argulus)* parasitic on the "brit," and three-spined stickleback, young lobsters about half-an-inch long, jellyfishes of several kinds, *Idotea irrorata*, young crabs, and small amphipods. The next day, Thursday, August 14th, we dredged to the N.E (No. 35) and N.E. by E. (No. 36) of Cape George, N.S., also in several places (Nos. 37 to 40) between Cape George and Port Hood. All the afternoon we were becalmed off Port Hood, Cape Breton, but at sunset a southerly breeze sprung up, so we tacked ship and beat down towards Cape George. On Friday, August 15th, having previously dredged in almost a straight line from Pictou to Port Hood, starting from near the latter place, we made directly for the east point of Prince Edward Island, and on our way got one good cast (No. 41) in the centre. We also got two hauls (Nos. 42 and 43) to the S.S.W. of the east point of Prince Edward Island and one on the Milne Bank. This latter is a small rocky patch, covered with quantities of the common cake urchin (*Echinarachnius*) and fine zoophytes. We also got one cast on this day (No. 45) about nine miles to the S.S.W. of Souris Head, Prince Edward Island. The morning of Saturday, August 16th, was spent in dredging between Cape Bear and Pictou Island (Nos. 46, 47, and 48) and in the afternoon we made for Pictou, and anchored there in the evening. In this short cruise we got eighteen more or less successful hauls of the dredge. The weather was fine, with the exception of one day, but the wind was often too light for our purposes. From Pictou along the western coast of Cape Breton, the bottom consists of a red clayey mud. Marine worms, of many genera and species, are the prevalent forms in it. In most places the bag of the dredge comes up with tangled masses of tubicolous annelids in handfulls, which constitute three-fourths of the specimens obtained from the mud. The sandy tubes in which these worms live, vary in diameter from the $\frac{1}{16}$ to a quarter of an inch, and in length from an inch or an inch-and-a-half up to nearly eight inches. Naked annelids, often of large size, also occurred with these. Zoophytes, too, are abundant in this red mud, the temperature of which appears to range from 40° to 42° Fahr., at least at depths of more than 25 fathoms. Off the east point of Prince Edward Island the bottom is sandy, and as the places where we dredged are not deeper than 15 or 20 fathoms, the summer temperature at the bottom is probably high. Between Cape Bear and Pictou Island the bottom is sandy, with shells and a few small stones. The area examined in this cruise is tenanted by a somewhat meagre and not very characteristic Acadian fauna, with a slight admixture of subarctic forms. Some of the species collected on this cruise are of considerable interest. Not a trace even of an oyster was observed in any of the localities examined.

CRUISE IV.

Having previously had teeth put on one of our dredges at Pictou, we left that port early on Tuesday, August 19th, intending to try and examine the oyster beds of North-

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umberland Straits, and of the New Brunswick coast up to Carraquette. We managed to dredge once (No. 49) to the west of Pictou Island, and were then compelled by stormy weather (and for other reasons) to make for Shediac. Arriving at Point du Chêne early the next morning, we were detained there two days by heavy head winds. We availed ourselves of the opportunity to examine the Shediac oyster beds, and spent one day dredging on them. In the third part of this report, a list will be found of the species met with, associated with the oysters, as well as some account of what we saw of the present condition of the beds.

At day-break on Friday, August 22nd, we left Point du Chêne, dredged from Shediac (Nos. 50, 51, and 52,) to the Egmont Bank, and stood back again to the south shore in the evening.

The Egmont Bank (No. 53) is a small rocky patch to the north-east of Shediac Bay. It is less than ten fathoms deep, and the bottom consists of coarse sand and stones, the latter covered with laminariæ and smaller algæ. Some of the stones are burrowed into by *Petricola pholadiformis*, and annelids of large size were frequent in the sand, from which also about 12 species of shells were collected.

Early on Saturday morning, August 23rd, we stood over to the Prince Edward Island side, and dredged (Nos. 54, 55, 56, and 57,) from a little above St. Jacques to Sea Cow Head. In the afternoon a falling barometer indicating a heavy storm, we made for Charlottetown, and reached there only just in time to weather out the memorable gale of Sunday, August 24th.

At Charlottetown we were detained four days, and during the gale our only boat was badly injured by heavy floating logs, but we could not manage to get another although authorized to do so.

Leaving Charlottetown on Thursday, August 28th, we dredged once in Hillsborough Bay (No. 58), then stood over to the opposite side and examined the entrance to Pugwash Harbor, where we got two casts (Nos. 59 and 60.) We then returned to Shediac to transact some necessary business, and were kept at Point du Chêne five days, as when we were ready to leave it blew too heavily outside for us to do any good, even if we could have beat out, which was almost impossible.

We again set sail on Thursday, September 4th, dredged to the N. N. E. of Shediac Island (No. 61), and afterwards (No. 62) in 13 fathoms off the West Cape of Prince Edward Island. The next day, Friday, September 5th, we dredged off Escuminac (No. 63), off Richibucto (No. 64), and lastly (No. 65) between Richibucto and Miramichi Bay. Towards midnight a strong gale rose up, and there was a heavy sea on, so we made the best of our way into Miramichi Bay, and anchored off Chatham (New Brunswick) on Saturday night, September 6th.

As there seemed no prospect of doing any more good work this season, partly on account of the weather, and partly because we had no suitable boat to explore the various oyster beds of the New Brunswick coast in, I determined to cease operations at this point. Accordingly, I left the schooner and took my passage on board the steamship *Secret*, bound up, on Tuesday, September 8th.

Of the four cruises the last was the least successful, although it was by no means barren of results. Most of the time was unfavorable for dredging purposes, so much so indeed that out of 19 days we only managed to work on part of six. Still, on this cruise we got 16 casts of the dredge, and obtained a fair idea not only of the fauna of the greatest depths in Northumberland Straits, but also of that of the oyster beds of that region. I was particularly desirous to try and ascertain if there were oysters living in any parts of Northumberland Straits at greater depths than three or four fathoms. In a St. John's newspaper it was stated that some one had dredged oysters between Richibucto and the West Cape of Prince Edward Island, in 16 fathoms water. We dredged all through Northumberland Straits, in the centre and on each side, especially at the mouths of rivers, and tried also the locality mentioned in the St. John's newspaper, but did not meet with the slightest trace of an oyster. In this region these mollusca seem to be confined to shallow water, less than three fathoms deep, in very sheltered bays. Although we particularly

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wished to examine some of these oyster beds minutely, it was found impracticable under the circumstances to work the schooner in such shallow water, and the only boat we had was not only, at its best, very unsuitable for dredging purposes, but was so badly damaged in the gale at Charlottetown as to be quite useless. Some valuable information as to the present condition and prospects of the oyster beds of New Brunswick and Prince Edward Island was, however, obtained from residents upon the coast. To examine the oyster beds of the Gulf of St. Lawrence effectually, steam power would be desirable. In case, however, a sailing vessel is used, she should be provided with a boat of light draught, of tolerable size, and capable of carrying one or two sails. It is also eminently desirable that the captain in charge should be particularly well acquainted with the coast. It happened that the captain in command of the schooner during the last cruise had never navigated the Straits of Northumberland before, and to make matters worse, we had no proper charts on board. The only boat we had was unseaworthy, as well as far too small for dredging purposes. The weather was more or less stormy all the time, and the season being far advanced, after a few unsuccessful attempts at dredging on well known oyster grounds, finding we were only losing time we were reluctantly compelled to desist.

During the first three cruises, Captain J. N. Purdy commanded the schooner, and in the last, Captain M. Graburn took charge of her. To both of these gentlemen my thanks are due for their continued kindness, and for their intelligent co-operation in carrying out the objects I had in view; I am greatly indebted also to the whole crew of the schooner, for their ready assistance in the work in which I was engaged, without which, indeed, many of the specimens collected would have been lost.

PART II.—PROVISIONAL SUMMARY OF THE ZOOLOGICAL RESULTS OF THE EXPEDITION.

As has been stated at the outset, the number of specimens collected last summer is very large. Only a small portion of these have at present been studied. With the exception of a few omitted by accident, all the annelids collected (filling some 80 bottles) have been sent to Dr. W. C. McIntosh, F.L.S., who has kindly promised to examine and report on them separately. To Professors A. E. Verrill and S. J. Smith, I am again indebted for much valuable assistance in the determination of critical species which could not be named here. To save reiteration I have prefixed an * (asterisk) to the species named by Professor Verrill, and a † (dagger) to the crustaceans identified by Professor Smith. A few specimens from former years dredging, which have not been determined before, are included in the following list.

FORAMINIFERA.

The microscopic species have not yet been critically examined. In the deep-sea mud three or more species were noticed which are plainly visible to the naked eye. They are all from 200 to 220 fathoms; one appears to be *Marginulina spinosa*, Sars, another is probably *Triloculina cryptella*, D'Orb. and the last is an arenaceous form new to me. This latter presents three prominent varieties: the first is a simple, unbranched tube, nearly straight, and sometimes fully an inch in length, but always less than a sixteenth in diameter; the second is widely triradiate, not unlike the calcareous spicules of Grantia; while the last is irregularly cruciform. These three extreme forms are connected by transitional specimens which seem to shew that the whole are varieties of one species. I am unable to state whether they should be referred to the *Asterorhiza limicola* of Sandahl or not. These organisms, though gregarious, appear to be exceedingly local; they occurred to me in only one locality.

SPONGES.

Probably as many as fifty or sixty species of sponges from the Gulf of St. Lawrence, if not more, are represented in the Museums of the Natural History Society of Montreal, and of McGill College. As there is no such thing as an accurately named series of British

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species in the Dominion, it is very difficult to ascertain which of the Canadian species are new, and which have been previously described. After a long study of all the specimens accessible to me, the following is a list of the few to which I have ventured to attach a name. In a great number of cases it is difficult even to refer the specimens to any known genus.

Calcispongiæ.

Grantia ciliata, O. Fab. Widely spread all through the Gulf, in depths of from twenty to ninety fathoms. It appears to be most abundant where the bottom is rocky. Taken in 1871, 1872 and 1873.

Ascortis fragilis, Hæckel. Bradelle Bank. Professor Verrill, to whom I am indebted for the identification of this species, writes me that it is the *Leucosolenia botryoides* of Professor H. James Clark, but not of European writers.

Silicispongiæ.

Thecaphora semisuberites, O. Schmidt. Tolerably common in moderate depths (20 to 90 fathoms) throughout the northern part of the Gulf.

Thecophora ibla? Wyville Thompson. A few specimens are occasionally found with the preceding, which differ somewhat from typical *Thecophora semisuberites*, and should probably be referred to this species.

Hyalonema (Stylocordyla) longissima, G. O. Sars. About a dozen specimens of this interesting sponge were dredged last summer in 200 to 220 fathoms between Anticosti and the south shore, with the three following forms.

Cladorhiza abyssicola, G. O. Sars. One specimen of this rare species was taken in 1872 and another in 1873, in depths of from 120 to 220 fathoms. The St. Lawrence specimens have a few pinnæ arranged at right angles to the main plane.

Trichostemma hemisphæricum, G. O. Sars. One example, a little narrow and higher than the type, was dredged last year in the same locality as the *Hyalonema*.

Tethea muricata? Bowerbank. Three specimens of a sponge, which I doubtfully refer to the above species, were brought up by "tangles" in the 220 fathom locality last summer. I have given a short description of this very interesting form in the "American Journal of Science" for March, 1874. Mr. G. T. Kennedy, M.A., of Montreal, had previously detected spicules of this sponge in the *Post pliocene* clays of the environs of that city.

Polymastia mammillaris? Muller. From 160 to 170 fathoms, mud about 15 miles from Cap Rosier. 1872. Two specimens.

Phakellia ventilabrum? Linn. In 75 to 80 fathoms stones, six and a half miles to the E. ¼ S. of Cape Gaspé. 1872.

Halichondria (Amorphina) panicea, Pallas. A common shallow water species, of which water worn specimens are often cast ashore. It is seldom taken in a living state owing to its preferring rocky bottoms where the dredge cannot be used. Living examples taken in 1872 from a depth of seven fathoms off Cape Rosier, were of a somewhat bright pea green colour.

Isodictya infundibuliformis, Linn. Principal Dawson finds this species abundant at Murray Bay, Rivière du Loup and Tadoussac. With me it has occurred somewhat rarely in Gaspé Bay and its immediate vicinity.

Sarcospongiæ.

Chalina oculata? Pallas. Not unfrequent in the Gulf.

HYDROZOA.

The number of hydroids collected is very large, but only a few of them have been at all critically examined. Many of those from the greatest depths seem to be different from any described British species. Professor Verrill informs me that G. O. Sars has

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lately written a monograph or essay on the Norwegian Hydrozoa, and I am awaiting the receipt of this to compare the description or figures with my specimens. It is thought that there are many species new to the Gulf of St. Lawrence in the series collected last summer. In addition to those catalogued in my last report, nearly all of which were also collected in 1873, the following additional ones have been noticed :—

Hydractinia echinata, Flem.
Eudendrium ramosum, Linn.
Purypha crocea, Ag.
**Clytia Johnstoni*, Alder. (Orphan Bank.)
Obelia geniculata, Linn.
Obelia gelatinosa? Pallas.
Lafoea dumosa, Flem.
Sertularella tricuspidata, Alder.
Hydrallmania falcata, Linn.

ACTINOZOA.

Alcyonaria.

Pennatula aculeata, Daniellsen, *var. Canadiensis.* More sparingly met with in deep water last summer than in 1871.

Virgularia Lyungmanii, Koll. A few good specimens were taken with the preceding.

Alcyonium rubiforme, Ehr. Abundant on the Orphan Bank, and very common throughout the northern portion of the Gulf.

Alcyonium carneum, Ag. Very fine and frequent between Cape Breton and Prince Edward Island.

Alcyonium, (sp.) A supposed third species of this genus, at first referred by Prof. Verrill to *Eunepthya glomerata*, occurs rarely in deep water.

Cornulariella modesta, Verrill. Dredged in 1871 in 220 fathoms, between the East Point of Anticosti and the Bird Rocks.

Zoantharia.

Metridium marginatum, E. and H. Orphan Bank and elsewhere ; very common.

Urticina nodosa, Fab. The species catalogued in my last report as *Urticina digitata*, Mull, should be referred to the above.

Urticina crassicornis. Common in many places.

Cerianthus borealis, Verrill. Tubes only, apparently belonging to this kind of sea anemone, have been dredged in very deep water ; the animal itself I have not seen.

Actinopsis (near *Actinopsis flava*, Koren and Dan). A single living example was taken in 1873, from a depth of 200 fathoms.

Epizoanthus Americanus, V. One colony of this compound creeping Zoophyte was taken in deep water in 1871 and another in 1872, in each case on a small stone.

ECHINODERMATA.

Astrophyton Agassizii, St. Bradelle Bank.

* *Ophiocolex glacialis*, Mull. and Tr. Two or three living individuals o this northern "brittle star" were dredged in 210 fathoms to the S. W. by S. of the S. W. Point of Anticosti.

Ophiopeltis, near *O. borealis*, G. O. Sars. This species, whose relations have not yet been accurately made out, is one of the most characteristic echinoderms of the deep-sea mud, where it is associated with the preceding, with *Ophiacantha spinulosa*, *Ctenodiscus*, and *Schizaster*. Entrance of Gaspé Bay, in 50 fathoms.

Ophiacantha spinulosa, M. and T. Common at all depths.

Ophicoma nigra? O. F. Mull. Bradelle Bank.

Ophioglypha Sarsii, Lutken. Very abundant, and of large size in many places.

Ophioglypha robusta, Ayres. Very sparingly met with.

Ophioglypha nodosa, Lutken, and *Ophiopholis aculeata*, O. F. Mull. The two commonest species in the Gulf.

Ctenodiscus crispatus, Retz. One of the most characteristic Asterids of the greatest depths. A large living example was taken in 50 fathoms at the entrance to Gaspé Bay.

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Pteraster militaris, Mull. Orphan Bank, somewhat plentiful.

Crossaster papposa, Linn. Bradelle Bank; also Gaspé Bay in about a fathom of water.

Korethraster hispidus, Wyville Thompson. The *Calveria hystrix* of my last report is this species, which has been lately re-named.

Asterias polaris, Mull and Tr. Common at moderate depths.

Asterias Grœnlandicus, St. Orphan and Bradelle Banks, &c.

Schizaster fragilis, Dub and Kor. Widely distributed in the deep-sea mud.

Psolus phantapus, Linn. Orphan and Bradelle Banks.

**Lophothuria Fabricii*, Lutk. Between Pictou Island and Cape Bear.

Cucumaria pentactes, O. F. Muller. Two fine specimens which agree exactly with Prof. E. Forbes' drawings and descriptions of this species, were dredged in 25 fathoms red mud, off Port Hood, C.B.

Pentacta calcigera, Stimps. I have recently detected one specimen of this scarce Holothurian in my 1871 dredgings.

Echinocucumis typica, M. Sars. Three small individuals of this species were dredged in the red mud, about half way between Port Hood and the East Point of Prince Edward Island.

Caudina arenata, (Gould). Point du Chêne, N.B., at low water.

Myriotrochus Rinckii, St. Entrance to Gaspé Bay, in 50 fathoms: also 50 fathoms, nine and a half miles to the S. E. of Little Pabou.

Some of the commonest species collected are purposely omitted in the above list.

POLYZOA.

For some years I have devoted much attention to this difficult group. A large quantity of material has accumulated, not only from my last three dredging expeditions, but from collections made by myself in 1869. To this must be added a series of specimens collected by various officers of the Geological Survey several years ago, and now in my possession, which has only been partially studied. Only a few of the more conspicuous of last year's specimens have been carefully examined, and the following species, not in my last year's report, have been noticed so far.

Cheilostomata.

Flustra abyssicola, G. O. Sars. One fine and characteristic specimen of this species was dredged in 220 fathoms, 16 miles to the S.W. by S. of the S.W. Point of Anticosti. New to the American coast.

Escharipora annulata, Fab. Gaspé Bay, in from 30 to 50 fathoms and elsewhere, but always of rare occurrence.

Escharipora punctata, Hassall. With the preceding.

Cellepora scabra, Fab. Common at moderate depths on stony ground, especially in most of the inner banks. Orphan and Bradelle Banks.

Myriozoum crustaceum? Smitt var., or nov. sp.? A single specimen of what at a casual glance would be taken to be an *Eschara*, presents remarkable microscopic characters. The cells have an avicularium on each side of the aperture, and exactly resemble Smitt's drawings and diagnosis of his *M. crustaceum*. It is possible that this latter species may have an *Eschara* form, as well as the one *(Lepralia like)* at present known. For the present I prefer taking this view to encumbering the literature of the subject with a new name, and perhaps increasing the list of synonyms.

Escharoides rosacea, Busk. The species to which this name is attached in my last report, is, I believe, *Escharoides Sarsii*, Smitt.

Eschara Skenei, Ell and Sol. All the specimens from the St. Lawrence with this name attached to them, which I have examined, are in my judgment erroneously named. I have not yet seen specimens from the Gulf which exactly agree with the European species.

Eschara (Cellepora) cervicornis, Pallas. Although the *Celleporaria surcularis* of Packard (the *C. incrassata* of Lamarck) is very different to the above, as Dr. Packard justly observes; both species are profusely abundant in the St. Lawrence, and in most

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cases occur together. On the Orphan and Bradelle Banks, for example, upwards of 50 fine specimens of each were collected last summer.

Porella (Eschara) lævis, Fleming. Two fine examples of this species were dredged (living) on the Orphan Bank. One specimen was also taken in 56 fathoms, stones and coarse sand, eight miles to the S.E. of Bonaventure Island in 1872.

Escharella (Eschara) palmata, Sars. A rare deep water species, the finest example of which was dredged in 1871 attached to a stone, in 120 fathoms off Bear Head, Anticosti. Smaller specimens were taken last summer in 220 fathoms, between Anticosti and the south shore. New to America.

Cyclostomata.

Mesenteripora meandrina, Wood. Orphan Bank, one living specimen.

Tubulipora penicillata? Fab. Gaspé Bay.

Tubulipora fungia? Couch. Gaspé Bay.

Hornera lichenoides, Linn. (= *H. borealis*, Busk). Two small examples of this interesting species were dredged in 220 fathoms, in the centre of the mouth of the river between Anticosti and the Gaspé Peninsula.

Ctenostomata.

Alcyonidium gelatinosum, Pallas. Very abundant on the Orphan Bank.

TUNICATA.

Most of the species, of which a list is given below, were kindly examined and identified by Prof. Verrill, who has made the study of these animals a specialty. To all these an asterisk is prefixed.

**Boltenia ciliata*, Moll. Orphan Bank and off Cape Bon Ami, in 30 fathoms.

Boltenia Bolteni, Linn. (= *B. clavata*, Fab.) Entrance to Gaspé Bay, and off Cape Bon Ami.

Ascidiopsis camplanatus, Fab. In great abundance and of extremely large size on the Orphan Bank. A common species almost everywhere in the Gulf.

**Eugyra pilularis*, V. Exceedingly abundant, but small, 10 miles north of Shediac.

Pelonaia arenifera, St. Common throughout Northumberland Straits, as well as between Cape Breton and Prince Edward Island. Rare in the northern part of the Gulf.

**Molgula pannosa*, V. Orphan Bank, one specimen.

**Molgula littoralis?* V. Between Pictou Island and Cape Bear, Prince Edward Island.

**Molgula producta*, V. In 15 fathoms sand, five miles to the N.N.E. of the east point of Prince Edward Island.

**Molgula papillosa*, V. With the preceding.

**Glandula fibrosa*, St. Off Port Hood, Cape Breton.

**Cynthia monoceros*, Moll. Between Pictou Island and Cape Bear.

**Cynthia carnea*, Ag. With the above.

Cynthia pyriformis, Rathke. With the two preceding; also common on the Orphan Bank.

**Leptoclinum albidum*, V. Between Pictou Island and Cape Bear.

**Amouræcium glabrum*, V. Orphan Bank.

MOLLUSCA.

The number of species of testaceous molluscs collected is somewhat large, and as I have elsewhere (Canadian Naturalist, new series vol. 4, pages 48-57, and 272-73; also vol. 5, page 104) given a tolerably complete catalogue of the molluscs then known to inhabit the Gulf to the north of the Bay des Chaleurs, a list is only given of some of the scarcer forms.

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Terebratala septentrionalis, Couth. Two living specimens were taken in from 200 to 220 fathoms.

Terebratella Spitzbergensis, Dav. Occasionally taken at depths of from 30 to 90 fathoms. I have collected it at about a dozen different localities. Judging by the unique specimen in the British Museum, I doubt the correctness of regarding *T. Labradorica*, Sow., as synonymous with this shell.

Pecten Grœnlandicus, Ch. Found in considerable numbers at some localities in the deep-sea mud. I have picked as many as 50 or 60 living specimens at one time from one "tangle," or "swab" as the sailors would call it. It is quite common to find individuals each clasping a single fibre of the tangle between its valves so tightly that it is barely possible to pull it out.

Dacrydium vitreum, Moll. Common at depths greater than 100 fathoms.

Yoldia limatula, Say. Very common in Northumberland Straits, also between Cape Breton and Prince Edward Island, but rare in the northern part of the Gulf.

Yoldia sapotilla, Gould. Occasionally met with with the above, of which it is probably a variety.

Portlandia thraciæformis, Storer. Rare and small, in the deep-sea mud north of the Bay des Chaleurs; larger, but dead, on the west coast of Cape Breton.

Portlandia lucida, Loven. In muddy bottoms, at depths of from 150 to 313 fathoms; not common. Closely allied to, if not identical with, the *Yoldia obesa* of Stimpson.

Portlandia frigida, Torell. With the preceding.

Arca pectunculoides, Scacchi. A common deep-sea species.

Cyprina Islandica, Linn. Northumberland Straits; also between Cape Breton and Prince Edward Island.

Astarte lactea, Brod. and Sow. Very abundant on the Bradelle Bank; scarce on the Orphan.

Astarte, near to *A. subæquilatera*, Sow. A characteristic deep-water form, whose specific relations are obscure. Possibly new to science.

Astarte undata, Gould. In Northumberland Straits, and in the area between Cape Breton and Prince Edward Island, this Acadian species takes the place of the northern *A. elliptica*.

Callista convexa, Say. Collected at the same localities as the preceding; also at the Magdalen Islands.

Venus fluctuosa, Gould. Bradelle Bank, large and numerous.

Petricola pholadiformis, and var. *dactylus*. Northumberland Straits.

Mactra solidissima, Chemn. Point du Chêne, low water.

Mactra lateralis, Say. 10 fathoms sand, about 10 miles north of Shediac.

Montacuta elevata, Stimps. 15 fathoms sand, off the east point of Prince Edward Island.

Pandora trilineata, Say. Northumberland Straits; also between Cape Breton and Prince Edward Island.

Thracia Conradi, Couth. Large and rather frequent on the beach at Point du Chêne after a storm. Alive in 12 fathoms off Pictou Island.

Periploma papyracea, Say. Widely distributed throughout the Gulf in moderate depths.

Teredo navalis, Linn. Pictou, N. S.

Haminea solitaria, Say. Beach at Point du Chêne.

Philine quadrata, S. Wood. A few living specimens were collected in very deep water.

Cylichna umbilicata, Mont. In 200 fathoms mud; dredged in 1872 and 1873. New to America.

Siphonodentalium vitreum, Sars. Sparingly taken, living, in the same locality as the preceding and following species.

Dentalium attenuatum, Say. I regard this shell as identical with the *D. dentale* of

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Gould, and with the *D. occidentale* of Stimpson; it is also, in my judgment, the same as the *D. abyssorum* of Sars.

Amicula Emersonii, Couth. Fine on the Orphan Bank.

Acmæa alveus, Con. Low water at Point du Chêne.

Crepidula fornicata, Linn., and *C. unguiformis*, Lam. These two species range from the area between Prince Edward Island and Cape Breton, through Northumberland Straits, along the coast of New Brunswick as far to the north as the southern entrance to the Bay des Chaleurs; Carraquette Bay, N.B., seems to be their extreme northern limit.

Margarita argentata, Gould. Taken in several localities.

Littorina littorea, Linn. Observed at Souris and Charlottetown, Prince Edward Island.

Rissoa carinata, Mighels, and *R. scrobiculata*, Moll. A few of each of these diminutive species were dredged in 200 fathoms mud.

Odostomia trifida, Totten. One specimen, Point du Chêne.

Turbonilla interrupta, Totten. Shediac Bay, frequent.

Lunatia triseriata, Say. Northumberland Straits; also between Prince Edward Island and Cape Breton.

Lunatia immaculata, Totten. Orphan Bank, and between Cape Bear and Pictou Island.

Cerithiopsis costulata, Moll. (= *Bittium arcticum*, Morch.) Two living specimens of this rare arctic shell were dredged, one in 110 and the other in 200 fathoms, between Anticosti and the south shore.

Bittium nigrum, Totten. Point du Chêne, N. B., at low water.

Buccinum tenue, Gray. Orphan and Bradelle Banks, fine.

Nassa obsoleta, Say. Beach at Point du Chêne.

Astyris Holbollii, Beck. Orphan Bank.

Amycla rosacea, Gould. At low water, Point du Chêne.

Tritonofusus Kroyeri, Moll. Orphan Bank.

Tritonofusus latericeus, Moll. Bradelle Bank, one living and adult example.

Neptunæa tornata, Gould. Orphan Bank, rare.

Neptunæa Spitzbergensis. Orphan Bank, six or seven living specimens.

Volutopsius Norvegicus, Chemn. One living but immature specimen of this very rare shell was dredged on the Bradelle Bank; an adult, but very much water-worn example was taken off Bonaventure Island in 1872.

Trophon craticulatus, Fab. Orphan Bank and off Cape Bon Ami.

Bela harpularia, Couth. 30 fathoms, off Cape Rosier and Bradelle Bank.

Bela violacea, Migh. Off Cape Bon Ami and entrance to Gaspé Bay.

Bela cancellata, Migh. Northumberland Straits.

ANNELIDA.

As has been previously stated, nearly the whole of the annelids collected have been sent to Dr. W. C. M'Intosh for identification.

Priapulus caudatus, Lamarck, was dredged at the entrance of Gaspé Bay, also off Cape George, N.S. A very distinct species of *Priapulus*, probably undescribed, and lacking the strong longitudinal and transverse sulci characteristic of P. caudatus, was collected off Port Hood, N.B. A small *Gephyrean*, which inhabits small shells (such as *Natica*, *Bela* and especially *Nassa trivittata*), and which Prof. Verrill tells me is *Phascolosoma cæmentarius*, *Quatrefages*, is abundant through Northumberland Straits, and to the East of Prince Edward Island.

CRUSTACEA.

Prof. S. J. Smith (of Yale College) has very kindly examined and determined for me most of the critical species in this family. To these a (†) is prefixed. Many of the Canadian marine crustacea are described by Kroyer and other writers, in journals which are

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not to be found even in the largest libraries of the Dominion; hence it is almost impossible to identify the whole of them here.

Order Pycnogonoidea.

Nymphon, small species. Orphan Bank.

Order Copepoda.

†*Irenæus Patersonii.* Towing net, frequent.

Argulus, sp., near A. *alosæ*, Gould. On *Gasterostus biaculeatus* off Pictou Island.

Order Phyllopoda.

†*Nebalia bipes*, O. Fab. 220 fathoms, between Anticosti and the South Shore: Bradelle Bank.

Order Isopoda.

Bopyrus, sp. On *Hippolyte spina* and *Pandalus annulicornis*, from the Orphan Bank

Idotea marmorata, Packard. Orphan Bank.

Idotea phosphorea, Harger. Four-and-a-half fathoms, Egmont Bank.

Idotea irrorata, Say. Towing net, Pictou, N.S., and Point du Chêne: low water. Shediac Bay. Common round the Magdalen Islands.

Epelys montosus, St. In 14 fathoms, off Richibucto, N.B.

Anthura brachiata, St. Common in deep water (200 fathoms) between Anticosti and the main land of Gaspé. Very near to the European *A. gracilis*.

Munnopsis typica, M. Sars. Frequent with the preceding.

Limnoria lignorum, Rathke. Dredged by me in water-logged wood in Gaspé Bay, in 1869.

Œga psora, Linn. On Halibut from the North Shore. Collected by Mr. W. Couper, in 1872, and identified by myself.

Order Amphipoda.

†*Pontoporeia femorata*, Kroyer. 70 fathoms, off Cape Despair: 45 fathoms between Miscou Island and the Bradelle Bank: 13 fathoms off Escuminac, N.B.

†*Stegocephalus ampulla*, Phipps. In 110 fathoms, due East of Mal Bay: Northern entrance to the Bay des Chaleurs, in 50 and 70 fathoms: Bradelle Bank.

Phoxus Kroyeri, Stimpson (not of Bate). About 30 miles to the N.E. of Cape Rosier, in 200 fathoms mud.

†*Harpina*, sp. In 220 fathoms, 18 miles East of Cape Gaspé: Bradelle Bank.

†*Metopa glacialis*, Kroyer. Between the inner and outer integuments of *Ascidiopsis complanata*, dredged on the Orphan Bank.

†*Syrrhoe crenulatus*, Goes. In 30 fathoms at the entrance of Gaspé Bay.

†*Eusirus cuspidatus*, Kroyer. Orphan Bank, one very large specimen.

Tritropis aculeatus, Lep. Orphan and Bradelle Banks: also from 30 fathoms off Cape Bon Ami.

†*Œdiceros lynceus*, M. Sars. Bradelle Bank. Between Cape Despair and Little Pabou, in 50 and 70 fathoms.

†*Acanthostephia Malmgreni*, Goes. From 70 fathoms, Cape Despair, bearing South, three-quarters-West, six miles distant.

†*Aceros phyllonyx*, M. Sars. Between Cape Despair and Grand Pabou, at the Northern entrance to the Bay des Chaleurs, in 50 and 70 fathoms.

†*Paramphithoe pulchella*, Bruz. Bradelle Bank, in 25 fathoms.

†*Vertumnus serratus*, Goes. Taken with the above, also from 30 fathoms just inside Gaspé Bay.

Acanthozone cuspidata, Lep. Fine and frequent on the Orphan Bank.

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Acanthozone, new species, fide S. J. Smith. Collected at a depth of about 30 fathoms, at the entrance to Gaspé Bay.

Epimeria cornigera, Fab. The most characteristic Amphipod of the greatest depths in the Northern part of the Gulf.

†*Halirages fulvocinctus*, Boeck. Rare in the same station as the preceding, but much more local. 220 fathoms mud.

†*Gammarus ornatus*, Edw. The common "beach flea" of Gaspé and Shediac Bays. Probably abundant everywhere along the coast.

†*Mœra*, sp. Off Cape George lighthouse, N. S., in from 22 to 30 fathoms.

Melita dentata, Kroyer. Between Miscou Island and the Bradelle Bank, in 45 fathoms mud and stones.

†*Melita* (near *M. dentata*). Gaspé Bay and off Port Hood, C. B.

†*Melita*, sp. Off Cape Despair, in 70 fathoms.

†*Melphidippa*, sp. Off Richibucto, N. B., in 14 fathoms. 220 fathoms between Anticosti and Gaspé.

†*Ampelisca*, sp. Bradelle Bank (two species): between Cape Bear and Pictou Island: off Sea-Cow Head, P. E. I., and off Pugwash Harbour, N. S.

†*Haploops*, sp. Bradelle Bank: off Cape George, N. S., and off Port Hood, C. B.

†*Byblis Gaimardii*, Kroyer. Northern entrance to the Bay des Chaleurs, Bradelle Bank, and between the latter place and Miscou Island.

†*Ptilocheirus pinguis*, St. Bradelle Bank, and between it and Miscou; between Cape Bear and Pictou Island, and two localities in Northumberland Straits.

†*Amphithoe*, sp. Egmont Bank.

†*Unciola irrorata*, Say. Collected at the same place as the preceding.

Caprella. A large *tuberculated* species of this genus was common on the Orphan Bank. A smaller and smooth form was frequent also in many localities.

Order Cumaceæ.

†*Diastylis quadrispinosa*, G. O. Sars. In 22 fathoms red mud, eight miles to the N.E. of Cape George, N. S.

†*Diastylis lucifera*, Kroyer. About 10 miles to the North of Shediac, in 10 fathom sand.

†*Diastylis sculpta*, G. O. Sars. With the preceding species.

†*Diastylis*———? young. 220 fathoms, between Anticosti and the S. shore.

†*Diastylis*, sp. Bradelle Bank.

†*Leucon nasicus*, Kroyer. Cape Despair, S. three-quarters N., six miles distant, 70 fathoms.

†*Eudorella*, sp. With the above; and 30 fathoms at the entrance to Gaspé Bay.

Order Schizopoda.

†*Thysanopoda neglecta?* Kroyer. Centre of the mouth of the river to the S. of Anticosti, in 210 and 220 fathoms. Between Cape Despair and Grand Pabou, in 50 and 70 fathoms.

†*Thysanopoda*, large species. In 210 fathoms mud, S. of the S.W. Point of Anticosti.

†*Mysidæ* near to *Erythrops* and *Parerythrops*. Between Cape Despair and Grand Pabou, some distance from shore: also half-way between Miscou Island and the Bradelle Bank.

†*Pseudomma roseum*, G. O. Sars. 28 miles to the E.N.E. of Cape Gaspé, in 110 fathoms, also 25 miles E. by N. of Cape Gaspé, in 210 fathoms.

Pseudomma, nov. sp., fide S. J. Smith. Between Cape Despair and Grand Pabou, in 50 and 70 fathoms.

Order Decapoda.

Nectocrangon lar, Owen. Very fine on the Orphan and Bradelle Banks.

Crangon vulgaris, Fab. Common everywhere in shallow water and at low-water mark, on most sandy beaches.

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Crangon boreas, Phipps. Orphan Bank and 30 fathoms off Cape Bon Ami.

Hippolyte spina, Sow. Common on stony ground at moderate depths. Orphan and Bradelle Banks.

†*Hippolyte macilenta*, Kroyer. Northern entrance to the Bay des Chaleurs, also between Miscou and the Bradelle Bank.

†*Hiypolyte Phippsii*, Kroyer. Orphan Bank.

†*Hippolyte pusiola*, Kroyer. Orphan Bank and off Sea-Cow Head, P. E. I., in 10 fathoms, gravel, stones and broken shells.

Pandalus annulicornis, Leach. One of the commonest shrimps of the Gulf, at depths of from 10 to 90 fathoms.

Calocaris MacAndreæ, Bell. A fine living example of this singular and rare species was dredged in 190 fathoms mud, 20 miles to the S. W. of the S. W. point of Anticosti. The first that has been taken on the American side of the Atlantic.

Eupagurus pubescens, St. Fine on the Orphan Bank.

Eupagurus Kroyeri, St. Widely distributed through the Gulf.

Munidopsis curvirostra, mihi. Four specimens of a crustacean for which I have proposed the new generic and specific names given above, were dredged last summer in the deep sea mud. Like *Pseudomma roseum*, and *Calocaris*, the Munidopsis has only *rudimentary* eyes, without pigment or facets in the cornea. I append the original description from an article in the March number of Silliman's Journal.

**Munidopsis curvirostra*, nov. gen. et sp. External antennæ about equal in length to the carapace and its rostrum; internal ones very short, not reaching farther thanabout one fourth the length of the beak. Eyes *rudimentary*, longitudinally oval, light yellowish in color; *cornea devoid of facets*. Carapace squarish, but longer than broad, with an outwardly directed straight spine on each of the front angles. Upper surface of the carapace granulate, hispid, transversely irregularly plicate. In the centre there are two dorsal spines, placed one above the other, but at some distance apart. These, as are two similar spines on the tail segments, are all exactly in a line with the rostrum, and the whole four point forward. Rostrum *simple* (without the spine on each side of the base so characteristic of *Munida*), *conspicuously curved upward*, stout at the base and gradually tapering to a fine point. A single spine in the centre of the first and second tail segments, the rest devoid of any. Anterior pair of legs about as long as, but not longer, than from the apex of the rostrum to the end of the tail, extending a little beyond the tips of the outer antennæ. The following are the measurements of an average and apparently adult female: length, from apex of rostrum to tip of tail, 1,38 inch; of carapace, including the rostrum, ·69 inch; of exterior antennæ, ·75 inch; of anterior legs, .94. Inhabits the centre of the mouth of the St. Lawrence River, between Anticosti and the south shore, in from 180 to 220 fathoms, and probably burrows in the deep sea mud. From *Munida* it may at once be distinguished by its curved and simple rostrum. In the rudimentary character of its eyes it closely resembles *Calocaris*, but not in many other respects.

Hyas araneus, Linn. Orphan Bank and entrance to Gaspé Bay.

Hyas coarctata, Leach. A very abundant species.

FISHES.

Gasterosteus biaculeatus? Shaw. Very common on the surface, also at low-water mark, throughout the Gulf. I think the common three-spined sea-stickleback should rather be referred to Shaw's species than to the *G. aculeatus* of Linnæus. The American species of this genus seem to require revision.

Liparis, sp. A small fish, probably the young of either *L. vulgaris* or *L. Fabricii*, was dredged in 70 fathoms, six miles off Cape Despair.

Centronotus fasciatus? O. Fab. One fine specimen was taken on the Orphan Bank.

Macrurus rupestris, O. Fab. 25 miles E. by N. of Cape Gaspé, in 210 fathoms, one living example.

Fundulus majalis? Walb. Common at low water in Shediac Bay.

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Clupea minima? Storer. A small fish, which may be this species, was frequently taken in the towing net at various localities. By fishermen from the United States and from the maritime provinces, it is locally known as "brit," and is said to form part of the food of the mackerel.

PART 3.—NOTES ON THE MARINE FISHERIES, AND PARTICULARLY ON THE OYSTER BEDS, OF THE GULF OF ST. LAWRENCE.

The following notes are, to a large extent, a compilation of scattered items of information, gathered from various persons residing along the coast. Captain J. N. Purdy, who commanded the *Nickerson* during the first three cruises, and who has had great experience as a fisherman, both in Canada and in the United States, has helped me very considerably in the preparation of this part of my report; and to him I am indebted for most of the facts subjoined. The late M. H. Perley's Report on the Sea and River Fisheries of New Brunswick, published at Fredericton in 1852, contains a valuable amount of local information not to be met with elsewhere. These notes may be looked upon as supplementary to that useful volume. The classification adopted is essentially that of Dr. Gunther's Catalogue of Fishes, in the British Museum. Professor Theodore Gill has published a critical "Synopsis of the Fishes of the Gulf of St. Lawrence and Bay of Fundy," in vol. ii., new series of the "Canadian Naturalist." As this latter paper is probably more accessible than Dr. Gunther's elaborate work, the names given by both authorities are quoted here. References are made only to those fishes or invertebrates which are of some economic importance.

MACKEREL. *Scomber scomber*, Linn., and *S. pneumatophorus?* De La Roche. Gunther. *Scomber grex*, Mitchill, Gill.

For the last four years mackerel have re-appeared in White and Green Bays, on the north-east coast of Newfoundland. They have been caught in Bras d'Or Lake, Cape Breton, with herring nets, in winter; also at Port Hood, Cape Breton, in December. During the first year mackerel grow to five or six inches in length. The "tinker mackerel," spoken of by Perley, are the fry of the common species, which, in the second year, attain a length of 10 inches. In the Bay des Chaleurs mackerel spawn in May and June, and occasionally a few as late as July. This fish prefers a rocky bottom, particularly banks; it does not apparently dislike sandy ground, but seems to avoid muddy bottoms. Ground *Menhaden* are largely used by American fishermen to bring mackerel to the surface. The Lower-Canadian fishermen use first coarse salt, and then ground fresh herring, for the same purpose. French Canadians do not seem to understand the proper mode of curing mackerel. They split them the wrong way, do not soak them enough, or kill them at once. This is unfortunate, as mackerel often abound in the northern part of the Gulf, especially in Gaspé Bay, and these badly-cured fish are quite unfit for the market. It is said that the use of purse *seines* for taking mackerel is a very wasteful mode of fishing, as more are often caught than can be cured, and quantities are killed unnecessarily this way. It might possibly be desirable to prohibit the capture of spawn mackerel.

TUNNY, or HORSE MACKEREL. *Thynnus thynnus*, Linn. Gunther. *Orcynus secundo-dorsalis*, Storer. Gill.

Occasionally eaten on the North Shore and on the Labrador coast. A fish largely cured in the Mediterranean, but never, so far as I can learn, prepared for the market by Canadians.

TAUTOGA, or BLACK FISH. *Tautoga cnitis*, Linn. Gunther and Gill.

A delicious table fish, but too rarely found to be of much practical value. Very rarely taken at St. John, New Brunswick, and in the Bay of Fundy.

COD. *Gadus morrhua*, Linn. Gunther and Gill.

Codfish appear to leave shallow soundings and the inshore banks in winter, and go farther out to sea. A large school visits the east coast of Cape Breton, from Chetigan, round by Scatari, in April. Cod appear to spawn all the year round, even in winter. Schools have been taken spawning on Brown and George's Banks, in February and

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March, also in November and December in the Bay of Fundy and elsewhere. A few codfish are taken now and then in Gaspé Bay in winter. It is not an uncommon circumstance for a school of cod to follow herring as far as Mahogany Islands, at the entrance of St. John Harbor, New Brunswick, in February and March, where they are taken plentifully with trawls by the inshore fishermen. This school does not apparently strike in shore during the summer, at least not in New Brunswick. A peculiar variety of this fish, "with a dark back and a black ring round the jaws" (Purdy) is taken on the Orphan and Bradelie Banks, as well as on the east coast of Prince Edward Island. They are of a large size and will, it is said, only take the hook *at night*, hence they are known to the fishermen as "night fish." With the exception of haddock, cod is the only fish that is well cured in the northern part of the Gulf. Cod prefer a bottom of stones, gravel, or sand, especially where shells and crabs abound. The season for cod, north of the Bay des Chaleurs, is from about May 15th to November 15th. In Bras d'Or Lake, Cape Breton, also on the north coast of Newfoundland and in the Bay of Islands, cod and herring are caught in winter through holes cut in the ice. The "bull-dog" cod, spoken of by Perley, are supposed to be individuals which have been bitten when young by other fish. A prejudice seems to exist along parts of the coast against the use of "trawls" or bultow lines, but I have not heard of any that appear to me sound arguments against them. It is believed by many experienced fishermen that quantities of young cod are annually destroyed by drag seines, used for bait near shore, but it is not easy to suggest a remedy for this state of things. The clam, of which Perley says the cod are particularly fond, is *Cyrtodaria siliqua.*

HADDOCK. *Gadus æglefinus*, Linn. Gunther. *Melanog rammus æglefinus*, Linn., sp. Gill.

Most plentiful on the south and west coast of Nova Scotia, and on the west coast of New Brunswick, but common throughout the Gulf. This species is taken all the year round, generally in schools alone, but sometimes associated with cod. They frequent clam banks, in from twelve to eight fathoms. A very valuable market fish, and one which will be much more so when the Intercolonial Railway is opened. At Digby, St. Andrew's and Western Isles, "finnan Haddies" are prepared for various markets in Canada and the United States. Haddocks are taken on the west coast of Newfoundland in winter.

POLLACK. *Gadus virens?* Linn. Gunther. *Pollachius carbonarius*, Bon. Gill.

Although this fish is commonly called "pollack" by the fishermen of the lower provinces and by those of the United States, it is not the same as the pollack of Europe. Its proper name is the coal fish, and it is common to both shores of the Atlantic. The species is locally known as the "sea-salmon," and is of somewhat southern distribution. It does not appear to range farther north than the Bay des Chaleurs, if so far, and has never been taken in the waters of the Province of Quebec. The species is most frequent in tideways in Nova Scotia and New Brunswick. As a table fish it is preferred by many to cod. To the north of the North Cape of Prince Edward Island no great business is done in the curing of pollack. They are, exceptionally, caught in winter among cod. They are not often taken on banks, but mostly along the shore. They school like mackerel, and are caught at the surface, to which they are brought by ground bait. Their food is said to consist largely of herring. The livers of this species yield the best oil; it is used for machinery and in making leather. Salted and dried pollack is worth from $2 to $3 per quintal.

"OLD ENGLISH HAKE." *Merluccius vulgaris*, Flem. Gunther. *Merluccius bilinearis*, Mitch. Gill.

The fishermen of the lower provinces endorse Dr. Gunther's view that this species is identical with the true hake of Europe. Locally it is called whiting, though the whiting of English authors (*Gadus merlangus*) is a very different fish. Hake are caught in purse seines, also in herring and pogy nets. They are not much used for food, and are rarely if ever cured.

AMERICAN FORKED HAKE. *Phycis Americanus*, Storer. Gunther. *Phycis tenuis*, Gill.

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This fish is the "ling" of the Jersey merchants. The species of forked hake in the Gulf require careful examination, as there are as many as three species in that region. On the east and west coast of New Brunswick, and on the north of Nova Scotia, the "ling" is taken from July to November. It is common on muddy bottoms throughout the Gulf; is salted and dried, with very little sun, exported to the United States, and from there to South America.

THE TORSK, TUSK, OR CUSK. *Brosmius brosme?* Linn. Gunther. *Brosmius Americanus?* Gill.

The common cusk of the St. Lawrence is taken all the year round, especially in the Bay of Fundy, where the fish occurs in many localities. Cusks are dried and cured with codfish, and fetch a better price than the latter in the West Indian market. There are two species of cusk in the St. Lawrence, but their geographical range has not yet been accurately defined, and I am not sure which of the two kinds is the one most frequently used.

HALIBUT. *Hippoglossus Groenlandicus?* Gunther. *Hirpoglossus Americanus*, Gill.

The Canadian halibut are said to frequent the outer banks in winter and the inshore fishing grounds in spring and summer. They feed on shells, crabs, lobsters, sculpin, &c., and can hardly be caught in quantity except by trawling. They are highly prized by inland consumers, and fetch a comparatively high price. About August halibut are caught in large numbers to the north of Anticosti. They are generally sold by draught (of 224 pounds) and sent to Quebec.

FLOUNDER. *Pleuronectes Americanus* Walb. Gunther. *Pseudopleuronectes Americanus*, Walb., sp. Gill.

A common fish everywhere in the Gulf, and occasionally exposed for sale in the markets at Halifax, Nova Scotia.

SMELT. *Osmerus viridescens*, Lesuer. Gunther. *Osmerus mordax.* Mitchell.

This delicious little fish is, or may be, taken abundantly throughout the Gulf all the year round. In Gaspé Bay smelts are caught in winter like tommy cods, through holes in the ice. In New Brunswick and Nova Scotia smelts are exported to New York and Boston. The species appears to spawn in April and May, and extends up the River St. Lawrence, at least as high as Quebec, in the spring and autumn.

CAPELIN. *Mallotus villosus*, Mull., &c.

The habitual use of this fish as manure, along the coast, is considered objectionable, as it tends to drive the cod further out to sea.

HERRING. *Clupea harengus*, Linn. Gunther. *Clupea elongata*, Lesuer. Gill.

In Gaspé last year the first herring of the season appeared about the 25th of April. The fishing began about the 10th of May and lasted until about the 25th of June, after which capelin struck in for a week or perhaps eight or nine days. The "drifting" season in and just outside of Gaspé Bay usually commences about the middle of June, and lasts to the end of July. At Grand Manan Rips, Captain Purdy informs me, the use of brush weirs has destroyed one of the most valuable herring fisheries in the Gulf. The herrings once caught there were the largest and fattest, and fetched the best price of any in the Dominion. In the opinion of Captain Purdy, the use of drag seines and of brush weirs should be prohibited. At Grand Manan, Campo Bello, and Deer Island, the destruction of young herrings by brush weirs has driven the cod from those localities. The New Brunswick winter fisheries are, or were, an important source of wealth to that province. As many as eighty vessels loaded with fish at West Isles, New Brunswick, for United States Ports, from October, 1872, to April, 1873. In April, 1873, forty sail of United States fishermen came to St. Andrew's Bay, New Brunswick, to buy herring for bait on the inshore bank fisheries. It is feared that the use of purse seines will either destroy or materially injure the herring fishery. In winter the New Brunswick herring frequent river estuaries and harbors with muddy bottoms. The rigorous protection to spawn herring at Grand Manan and St. Andrew's Bay is undoubtedly a great public benefit. For many of these details I am indebted to Captain J. N. Purdy.

MENHADEN, OR "POGY." *Clupea menhaden*, Mitch. Gunther. *Brevoortia menhaden*, (Mitchell) Gil. A fish of very rare occurrence in Canadian waters. Of late years none

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have been found in New Brunswick or to the north of Grand Manan. Menhaden are largely used as bait for mackerel, cod, and halibut. The head, tail, backbone, and offals of this fish are converted into manure by grinding, pressing, and adding a little salt to them so as to make a kind of guano. In the United States this preparation is worth from $16 to $20 per ton. Iced menhaden is used as bait for cod and halibut, and the meat of the same fish salted and subsequently finely ground is employed to bring mackerel to the surface. The United States method of fishing for mackerel is greatly disliked by fishermen resident along the coast. The effect of it seems to be to draw mackerel further out to sea, and it seems tolerably certain that in many bays, as in some of those of the East coast of Cape Breton, for example, no mackerel are found now where they formerly used to be plentiful. At the same time the use of menhaden is not illegal, and United States fishermen always were allowed to take mackerel (except inshore) before the fishery clauses of the Treaty of Washington came into force. It would be desirable perhaps to try and acclimatize menhaden in British waters. All that would be necessary would be to send a vessel or two, each provided with a well room, to the United States, and liberate the menhaden thence procured, at the mouth of any of the New Brunswick or Nova Scotia Rivers, such as St. Andrew's Bay, L'Etang, Lepreaux, or Musquash, in New Brunswick; or St. Mary's Bay and its tributaries, or Tuskeet River, in Nova Scotia.

The Lobster. *Homarus Americanus*, Edwards. The lobster fisheries of the River and Gulf of St Lawrence, are of very great economic importance, more especially now that the supply of this popular article of food is not equal to the demand for it in the United States and in Europe. At present large quantities of lobsters are shipped to these countries from New Brunswick and Nova Scotia. In spite of their increased commercial value, it is nevertheless a fact that in some of the northern parts of the Gulf good marketable lobsters are still used to manure the fields! Few can doubt the propriety of at least attempting to discourage a proceeding at once so reprehensible and wasteful. The latest regulation, forbidding the taking of lobsters less than a pound and a half in weight, is much complained of by persons engaged in this fishery. They urge that it would be better to allow lobsters weighing a full pound to be taken, but not any under that weight. Mr. W. S. Brown, who has a lobster canning establishment at Shippegan, has kindly given me an account of some of his experiences during the past summer. He says that a few small red eggs begin to form under the tails of the lobsters early in July, and at the end of September the tails were filled up, and 80 or 90 per cent. of the lobsters taken had eggs attached to them. Late in September these eggs had become nearly the size of B.B. shot, and were very dark in colour. At this time the few that were taken near the shore were mostly males. Mr. Brown thinks that the lobsters leave the shore in October, and go to deposit their eggs in deep water, and that this latter operation is performed sometimes as late as November or December. In July and August, Mr. Brown writes me, "I found that 80 to 90 per cent. of the lobsters had an abundance of eggs, and that 60 to 70 per cent. of them would weigh less than a pound and a half. Five lobsters weighing 1½ lbs each will shell out about one pound of fish, and my average this season has been about four and a half lobsters to the pound or can." "The heavy gale of last August drove more lobsters ashore within five miles of my packing houses than I could make use of during the whole summer." "They formed a row of from one to five feet deep, and I should estimate them at an average of one thousand to every two rods of shore." "The next that came in shore after these were very small, averaging from two to four inches in length, and upwards, and the coast seemed alive with these small lobsters." It might be desirable to establish protected breeding grounds for lobsters in the Gulf, on somewhat the same general principle as oyster beds are formed. The season for lobsters varies with the locality. In Gaspe Bay they are taken in July and the beginning of August, but further south they appear earlier and stay later. In the south part of the Bay des Chaleurs and on the northern New Brunswick coast, they approach the shore late in May, and leave it for deep water more or less late in September. There seems to be a great difference of opinion among the coast fishermen as to the time when lobsters spawn. Very small specimens, always less than an inch in length were frequently taken by the

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towing net in July and August at some distance from land, swimming about among floating weed. The Hon. W. H. Pope writes me that lobsters often burrow in the sides of oyster beds during the winter months.

Canadian Oysters. *Ostræa Virginiana*, Lister: and *Ostræa borealis*, Lamarck. It is not necessary or desirable to enter minutely here into the somewhat complicated history of the synonymy of the two Canadian species of oyster. It is sufficient for my present purpose to say that the long and narrow oyster, which is abundant in Virginia, New York Bay, &c., was the first of the oysters known in Europe from the temperate parts of North America. The species was known to Linnæus, and was originally described by Lister as *Ostræa Virginiana*. For the shorter and more rounded form, Lamarck at a later date, proposed the name of *Ostræa borealis*, and gave a short diagnosis of the species. Some varieties of this latter mollusc came so near to specimens of the common British and north European oyster, that it is difficult to distinguish between them. *Ostræa Virginiana* is much the rarest of the two Canadian oysters, but between it and the *O. borealis*, there are so many intermediate varieties and connecting links, that many naturalists doubt the value of the specific relations proposed.

As the geographical range of the two forms is very similar, and as my principal object is to call attention to their economic importance, the two species, or varieties, will be considered together. In the Gulf of St. Lawrence, oysters are usually found in very shallow water, nearly always in depths of less than three fathoms, in sheltered bays or mouths of rivers. In New Brunswick, as has been shewn before by Perley, they range from Caraquette to Baie Verte. Capt. Purdy, informs me that oysters have been taken up on the flukes of anchors, in 7 fathoms water, between Little and Big Caraquette Banks, in the Bay of Chaleurs. On the coasts of Prince Edward Island, oysters are found in suitable localities, from Pinette River to the west point on the Northumberland Straits side; and in Malpeque or Richmond Bay, from Cascumpeque to New London on the northern. In Cape Breton they appear to be confined to Bras d'Or Lake and its tributaries, where the oyster region extends from St. Ann's to Mira River and St. Peter's Bay. The few oysters to be met with off Nova Scotia, occur at Jeddore Head, 20 or 25 miles east of Halifax Harbor, also Country Harbor, St. Mary's River and Lipscombe Harbor, Guysboro' Co., on the outside; and Pictou Harbour, River John, Wallace, Charles River, and Pugwash, in Northumberland Straits. (Purdy.) We did not find traces even of oysters in any part of the area between Cape Breton and Prince Edward Island, nor in any part of Northumberland Straits where the bottom is deeper than five or six fathoms, that is to say not in any of the open parts.

In answer to a letter asking for information on several points connected with the oyster beds of the Gulf, the Hon. W. H. Pope has kindly given me a most interesting and valuable account of the oyster beds of Prince Edward Island, together with many items of practical information on the subject, which no one else is so well qualified to give. The following paragraphs, to which quotation marks are affixed, are extracts from letters received from Mr. Pope, and are printed by his permission.

"Oysters *have* flourished in every tidal river and bay in Prince Edward Island. At the present time, productive oyster beds are found in Richmond, Cascumpec, and Hillsborough Bays, and in the rivers flowing into those inland waters. I might almost say in these localities alone. The produce of the beds in Hillsborough Bay is very inconsiderable. The official returns of imports and exports to and from Prince Edward Island, for 1872, shew that 9,490 barrels of oysters were shipped from this Island in the previous year."

"From Summerside,	7,572	barrels.	(Produce of Richmond Bay.)
" Malpec,	840	"	
" Cascumpec,	718	"	" Cascumpec Bay.)
" Charlottetown,	230	"	(Chiefly produce of Richmond Bay.)"
" Orwell,	130	"	

"The dredge has never, to my knowledge, been employed in the waters of Prince

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Edward Island. Oysters are fished with "tongs," from depths varying from three or four feet to twelve, and even fifteen feet. It is scarcely practicable to fish oysters, with tongs, at a depth greater than fifteen feet."

"I am not aware of the existence of oyster beds in any part of the Straits of Northumberland, or of the sea surrounding the Island. Some years ago I observed a quantity of oyster shells on the sand at the north end of the Tryon Shoals (which are situated on the south side of the Island); they were about a quarter of a mile from the shore. Some of the shells were filled with sand, more compact than much of our sandstone rocks. When I first observed these shells, my opinion was that they had been washed ashore from beds situate in the deep water of the Straits of Northumberland. It has since occurred to me that they are *in situ*, and are the remains of an ancient oyster bed which had been destroyed by the sand. The existence of a soft muddy bottom in the vicinity of these shells supports the supposition that at some period this muddy bottom was more extensive than at present; that the oyster bed was then formed, and was destroyed by the encroachment of the sand forming the Tryon Shoal."

"During the past ten or twelve years, *millions* of tons of oyster shells and mud have been taken up by our farmers, from oyster beds, by means of dredging machines, worked by horses on the ice. In many instances the beds have been cut through, and in some places the deposits of shells have been found to be upwards of twenty feet in thickness. It is probable that many of the oyster beds ceased to be productive of oysters, ages before the settlement of the country by Europeans. Extensive deposits of oyster shells are now found covered by several feet of silt. How were the oysters upon these beds destroyed? The natural process of reproduction and decay would cause the oyster beds formed on the bottom to rise so near to the surface of the water, that the ice would rest on them. The weight of heavy masses of ice upon the beds would injure the oysters, and the moving of the ice, when forced by tide or wind across the bed, would soon destroy them. I have observed the more elevated portions of an oyster bed, over which ice had been thus forced. Several inches of the surface of the bed, including all the living oysters, had been driven before the ice, and the shells and oysters so removed, had been deposited in a miniature *moraine* on the slope of the bed, where the water was sufficiently deep to allow the ice to pass over it. This crushing and grinding process would destroy many of the oysters; some would be crushed and broken, others smothered in the *moraine*. The gradual silting up of the river would prevent the running of the ice, and the oyster beds would, in time, be covered, as we now find them. Deposits of oyster shells (covered with mud), twenty feet in depth, are found in rivers, in the deepest parts of which there are not now fourteen feet of water."

"Oysters thrive on muddy bottoms, but they will not live if imbedded in mud: many oyster beds have been destroyed by mud alone. The annual fishing of oyster beds, if not carried to excess, improves them. In the process of fishing the surface of the bed is broken up, the shells and oysters lifted out of the mud, and a supply of material (cultch) afforded such as the oyster *spat* requires, and without which it must perish.

"Oysters upon natural beds are seldom, if ever, killed by frost. I have known oysters to thrive upon a hard stony bottom, notwithstanding that the ice rested upon them once in every twenty-four hours throughout the winter. Some of these oysters grew adherent to a small flat rock about eight inches in thickness. The oysters on the top of the rock were killed when they attained their second years' growth, I think, by pressure, as those on its edges were never injured by ice or cold."

"Oyster beds in rivers in which sawdust is thrown in large quantities would probably be injured by it. The sawdust would, I think, be carried by the current over the beds, and the roughness of their surfaces would detain some of it. The interstices between the shells and oysters would probably become filled with sawdust and mud. Mud and decomposing sawdust constitute a most offensive compound."

"The area of productive oyster beds in the Dominion is comparatively limited, and altogether inadequate to supply the demand for oysters which is now enormous, and which is increasing every year. Unless the existing beds be protected and improved, and

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new beds formed, the day will soon come when the oyster beds of the Dominion will cease to produce. Our neighbours of the United States tell us that Virginia alone possesses more than one-and-a-half millions of acres of oyster beds, and, notwithstanding the fact that oysters increase much more rapidly in the warmer waters of Virginia than they do in this latitude, the authorities of that State have expressed their fears that the oyster beds of Virginia, if left open to the world, and dredged at all seasons of the year, will become extinct."

"The rivers and estuaries of this Island are admirably adapted for the cultivation of oysters. The oysters found in its bays are not to be excelled in flavour, and if fished late in autumn they will keep good for months. I see no reason why hundreds of thousands of acres of oyster beds should not be formed in these bays, which would produce vast quantities of oysters in quality much superior to the oysters of Virginia. The material for the formation of such beds is at hand in the ancient ones; and oysters with which to sow them could be had at little cost during the warm calm days of summer."

"We have a 'close season,' from June until September, but the law prohibiting fishing during this season is openly violated. Oysters are caught and exposed for sale in every month in the year, and salmon are destroyed upon their spawning beds with the utmost impunity. I shall be happy to hear that the Dominion Government have resolved to enforce the laws for the protection of oysters, salmon and trout. We now form part of the Dominion, as you know, and have a right to look for wiser legislation and a better administration of law."

"You inquire—'do you think oysters would thrive in somewhat deeper water than that in which they are now found, if sown there?' I think they would thrive in the deepest part of any inland water, if placed upon suitable ground"

In another letter received later Mr. Pope expresses the hope that the Minister of Marine and Fisheries will think proper to appoint a commission to report upon the oysters and oyster fisheries of the Island, and intimates that in such an event he would have no objection to give his services gratuitously.

The only oyster beds which we were able to examine at all in detail were those in Shediac bay. On these grounds, in very shallow water, the dredge came with the bag more or less full of oysters, or rather of oyster shells (for upwards of ninety per cent. of the specimens were dead), together with some other common kinds of shells, &c., and a little blackish mud, which smelt very offensively. As there is a lumber mill in the bay, this ground is probably an example of the "offensive compound of mud and decomposing sawdust," of which Mr. Pope speaks. In a whole afternoon's dredging we only got two or three living oysters. Being detained a few days at Point du Chêne, I endeavoured to get some idea of the fauna of the bay, at depths of from low-water mark to three fathoms, particularly with the view of ascertaining what kinds of marine animals were associated with the oysters, and how many of them were injurious to that mollusc. The following is a list of the species collected in Shediac Bay; those which are supposed to be more or less inimical to the oyster being italicised :—

CRUSTACEA.

Cancer irroratus. *Say.*
Crangon vulgaris. *Fab:*
†Gammarus ornatus. *Edw.*
Idotea irrorata. *Say.*

MOLLUSCA.

Ostrea borealis. *Lam.*
O. Virginiana. *Lister.*
Mytilus edulis. Linn.
Modiola modiolus. Linn.
Mercenaria violacea. *Schum.*
Gemma Tottenii, *St.*
Callista convexa. *Say.*
Petricola pholadiformis. *Lam.* and var. dactylus.
Teredo, sp. (in a spruce log).
Haminea solitaria. *Say.*
Cylichna pertenuis. *Migh.*
Acmœa alveus. *Conrad.*
Crepidula fornicata. *Linn.*
" unguiformis. *Lam.*
Paludinella minuta.
Odostomia trifida. *Totten.*
Turbonilla interrupta. *Totten.*
Lunatia heros Say.
Bittium nigrum. *Totten.*
Nassa obsoleta. *Say.*
" trivittata. *Say.*
Astyris lunata. *Say.*

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Mactra solidissima *Chemn.*
Mya arenaria.
" truncata.
Angulus tener. *Say.*
Thracia Conradi (fine and frequent).
Pandora trilineata? *Say.*
Solen ensis, v. Americana.

ECHINODERMATA.

Asterias vulgaris St.
Cribella sanguinolenta.
Echinarachnius parma.
Echinus Dröbachiensis.
Caudina arenata *(Gould).*

In addition to these, algæ were tolerably plentiful, and a few small annelids and zoophytes were collected. Of course the short catalogue given is by no means offered as a complete list of the fauna of the oyster beds. The chief living enemies of the oyster in its native waters are starfishes, sea eggs (Echinus), carnivorous sea snails or whelks (the "drills" of the European oystermen), and mussels. So far as I could see, these do not exist in sufficient abundance in Northumberland Straits to be of any serious disadvantage.

Many once productive beds, in various parts of the Gulf, now yield almost nothing; and there is too much reason to fear that unless precautionary measures are adopted, the oyster fisheries of the eastern part of the Dominion will soon become a thing of the past. The raking of the beds has been palpably excessive and wasteful; no such thing as cleansing the ground and scattering the spat during the close season has ever been practised; the pollution of the grounds by refuse of mills, by silting up, and a variety of other causes, has led to the present state of ruin and decay which we now see. Neglect, waste, and excessive cupidity have almost destroyed these oyster beds, and will ultimately entirely do so unless remedial measures are adopted. Without pretending to have any practical experience of oyster culture, or much local knowledge of the Canadian oyster beds, I would nevertheless venture the following suggestions :—

1. To plant new beds in suitable places throughout the Gulf.

The peculiar conditions under which oysters are found in Canada make this a very easy matter. No enclosures would be necessary, as in the French "parcs," all that would be required would be to select a suitable locality, as near to beds known to be productive as possible, be sure that the bottom selected is scrupulously clean, spread clean cultch over it, plant the oysters, and see that they are not disturbed for at least two or three years. Oysters are of marketable size at four years old, but attain their prime at the fifth. Suitable localities for making new beds are the mouths of rivers throughout North umberland Straits, on both sides, many places in Prince Edward and Cape Breton Islands and parts of the coast of Nova Scotia and New Brunswick, particularly Buctouche outer bar and Miramichi Inner Bay, in the latter Province. The great object in all oyster culture is to "save the bulk of the spat when free." After expulsion from the parent (as is well known) the fry at once rises and swims about until it meets with a clean hard surface to attach itself to. Unless, however, it is arrested by some object, the spat will either get drifted out to sea, or be devoured by one or other of its many natural enemies. Another object which it is desirable to effect is the separation of the specimens. In a state of nature oysters live one upon the other, in clusters, of all ages and sizes. In the majority of cases (except where they come from beds which are private property, and where oyster culture is practised) for one oyster you eat, a number of immature ones are destroyed. "Bank oysters," as these clustered masses are called by the English oystermen, are difficult to dredge, and are usually in poor condition. A liberal use of clean cultch, and judicious dredging of the beds, tend to separate the oysters.

It might be desirable to lease portions of the coast to individuals or companies, for practical oyster culture. It would be far wiser to protect capitalists who might wish to try and develop our resources in this direction, under certain regulations, than to allow things to remain as they are.

2. Excessive and wasteful fishing on existing beds should not be permitted.

Few will gainsay the statement, that in many parts of the Gulf, oyster beds, once productive, are now almost exhausted though excessive raking. A certain proportion of the whole should be set aside, in rotation, for a season of rest and recuperation. Certain beds

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should be allowed to rest for a definite period, and during this time no oysters should be taken from them for the market. Unless the bottom were foul, or some other agency were at work, it is probable that many beds might again become productive, if the oysters were let alone and allowed to breed. It would probably be still better to dredge over the beds at intervals, and clean them; to supply new cultch and spread the oysters more, so as to separate them as much as possible. It is important to understand that oyster spat will not live on a foul or dirty bottom.

Many good authorities say, and the opinion is rapidly gaining ground, that more harm than good is done to the oyster beds by enforcing a close time. In the "Report of the Commission appointed to inquire into the Method of Oyster Culture in the United Kingdom and France, with a View to the Introduction of Improved Methods of cultivation of Oysters in Ireland," dated 1870, a summary is given (which we quote) of the arguments on both sides of this question.

"In favor of the existing system of close time it is urged:

a. That during close time, the oysters are unfit for food.

b. That dredging over the beds will crush and destroy the young spat.

c. That if the oysters are taken while breeding, the supply must soon come to an end."

"But to all these allegations forcible replies are given:"

"*a.* It is generally agreed that not more than 20 per cent., or thereabouts, of the oysters are ever spawning at once, at least 80 per cent., even at the worst of times, being eatable and in good condition. The celebrated naturalist, Kroyer, who undertook an official examination of the Danish oyster beds, found not more than one oyster in ten spatting, even in July and August."

"*b.* Those who have been in the habit of dredging for marine animals, and of bringing up the most delicately organized creatures in great abundance alive, will not be disposed to attach much weight to this objection. Every naturalist is aware that the most delicate Corallines and Ascidians may be dredged up roughly, placed in a bucket of sea water, and examined in full health and vigour after an hour's sail homeward under such circumstances."

"The evidence of practical oyster cultivators whom we have examined on this point is worthy of careful attention."

"According to the opinions expressed by" credible "witnesses, not only is no harm done by dredging over the young spat, but positive injury is the result of not dredging over the ground before the spat is deposited."

"But it is rare for the spatting to take place early in May, and if it does, as the young oysters swim about for 20 to 27 days, dredging over the beds cannot possibly do them harm for the greater part if not the whole month of May; while if, as is more usual, the spatting does not occur till June, July, or even August or September, not only may dredging during these months be totally innocuous to the spat on account of its not having settled, but, on the theory that dredging over the spat is injurious, great damage may be done in the two first of the open months."

"Even admitting a certain amount of destruction from dredging over the spat, the question arises whether this destruction is likely to be greater than that which will result from leaving the oyster to the undisputed sway of mussels, star fishes, weeds and mud! This is a question which can only be decided by experience. In the present state of our information, it can only be said that legislative interference is just as likely to do harm as good, and that so far as the present close time is concerned, dredging in May must certainly have less effect upon the brood than dredging in September."

3. The pollution of bays, estuaries, or tidal rivers by the refuse of mills and the like, should not only be prohibited but as far as possible prevented. This practice is not only injurious to the oyster beds, but also to all the other fisheries. Further, it spoils the anchorage in harbors, &c.: instances have been mentioned to me of captains letting their anchors drop on a supposed good bottom, and finding that the flukes had only a few inches of rotton sawdust to hold on to.

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I shall conclude this Report with a few extracts from the latest works on oyster culture which I have access to.

The following are taken from the Report of the Irish Commission previously cited. As part of the Commissioners' experience of the French system, they say:

The French Government have assumed "the entire control over all the oyster banks and foreshores." "As occasion may seem to require, an entire bank may, for a certain time, be altogether reserved against dredging operations, or any portion of it." "The general practice seems to be to mark or buoy off a third or fourth of a bank each year; the remaining portion being dredged for a specified time by the persons permitted during the number of days allowed for the operation—the reserved portion being also dredged for a few days to clean it of weeds, mud and vermin." "Everything relating to oyster fisheries is decided on by a local Commission." "This Commission is presided over by the local inspector of fisheries, or officer commanding the fishery guard, and is composed as follows:—

"The inspector of fisheries or a syndic.

The officer commanding the fishery guard.

Two gardes maritimes.

One fisherman, being master of a boat."

The following embrace the more important principles laid down for the guidance of the Commission:—

"The beds should not be opened for fishing until the spat has acquired strength to resist the action of the dredge; until the end of January, for example."

"When a bed has well established breeding capacities, a fourth or fifth part of its total area should be set apart as a reserve, and dredging over such part entirely prohibited."

"A fishery guard boat should, whenever practicable, take part in the working of each bed."

"When a bed is foul or encumbered with weeds or other matter noxious to the development or adherence of spat, it should be opened for dredging until cleaned."

"Beds on which there is never any production of spat shall be opened all through the season."

"After the working of any bed is over, it should be carefully inspected, and, if necessary, replenished with proper 'cultch,' stones, shells, &c."

"Trawling is prohibited within 525 yards of any oyster beds. The capture of oysters is strictly forbidden between the 1st May and 31st August, within the three mile limit, and in international waters from June 15th to August 31st."

"Grants of foreshore, or concessions, are made to persons desirous of cultivating oysters, the grants in most instances being much smaller than in Ireland, and not possessing the same advantages as to length of tenure." "Undoubtedly benefit accrues to the small cultivators of the soil from these grants of foreshore, either for breeding or fattening processes, and the Government encourages such enterprizes by affording facilities for obtaining stock from the Government reserves, and by occasionally making free grants both of oysters and tiles. Sailors, or the families of sailors, serving, or who have served in the Imperial Marine, are allowed certain advantages over other applicants for such concessions."

"The oyster and other fisheries are under the control of the Minister of Marine Department, forming a special branch under the able administration of M. de Champeaux, assisted by a permanent commission of nine members, of which M. Coste is the head."

"On the coast the Commissaires d'Inscription Maritime are, in addition to their other duties, charged with looking after the fisheries, having under them divisional Inspectors, and occasionally other subordinate employeés. This system, as regards supervision, affording information to fishermen, enforcing regulations, and collecting statistics, appears admirable, and has been productive of vast advantage to the fisheries of France."

After a careful examination of the oyster beds and methods of oyster culture in France and Great Britain, the Irish Commissioners submitted the following recommenda-

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tions, for the regulation of the Irish oyster fisheries, to the Lord Lieutenant of that island in 1870 :—

1. "That all regulations with regard to the close time around the Irish coast should be strictly maintained."

2. "That the Inspectors of Irish fisheries should have power, whenever they determine to reserve a bank or any portion thereof from public dredging, for the purpose of recovery, to make such arrangements as may seem desirable for keeping the restricted part free from weeds and vermin."

3. "That there should be procurable at each coastguard station, at a small cost, general information as to oyster culture, and simple instructions as to the best mode of proceeding."

4. "That the Inspectors be empowered to adopt such other means as they may deem necessary, to afford information and instruction to those requiring it with respect to oyster culture."

5. "That having unsizable oysters in possession in places where it is prohibited by any by-law to take oysters from any public beds under a certain size, shall be *prima facie* evidence that such oysters were taken in places so prohibited; such regulation not to apply to private oyster grounds."

6. "That facilities be afforded to the coast population to acquire the use of small portions of foreshore, or sea bottom, for oyster cultivation, and to obtain loans on satisfactory security for the preparation of same, and for the purchase of oysters, collectors, &c."

7. "That landed proprietors desirous of cultivating oysters on the shores adjoining their lands, be empowered to avail themselves of the provisions of the Irish Land Improvement Acts, for the purpose of oyster cultivation."

In his "Report on the Cultivation of Oysters by Natural and Artificial Methods," published in the Report of the British Association for 1865, Mr. Frank Buckland writes :

"The English system is to catch the spat upon cultch, the French to catch it upon tiles." I have examined both systems, and come to the conclusion that the tiles will (except under certain favourable circumstances) never beat the cultch.

"I have been to the Isle of Ré, and have seen (through the great kindness of Dr. Kemmerer) the whole system; and the long and short of it is this :—For many years the oyster spat in France was totally neglected, and the inhabitants thought nothing about turning their beds to profitable account. The learned pisciculturist, M. Coste, suggested the idea of tiles being placed down, the idea having, I believe, been first suggested by a poor mason, M. Bœuf, with whom I have had a long conversation. The tiles, fascines, &c., were placed down under the patronage of the Government, and they were picked up covered with young oysters. The success was pronounced complete, fascines and tiles were all the rage, and all who had oyster fisheries thought their fortunes were made."

"The fact of the matter is, that the first year these various oyster-catching implements were laid down happened to be a year famous for an exceedingly heavy fall of spat; in other words, a vast majority of the young spat born, lived, thrived, and ultimately adhered to whatever they could find to adhere to. They found the fascines and tiles, and covered them as bees cover the boughs of a tree at swarming time; and the idea was at once started that these fascines and tiles were the means, as it were, of creating the oysters which otherwise would not have been created."

"The first two or three years after these tiles, &c., were laid down happened to be good years for the spat living; but for the last few years the spat has not lived, and the natural consequence has been that they have not been found on the tiles in very large quantities. Oysters, in fact, are just as scarce this year in France, as they are in England. If the artificial system, with tiles, had been such a great success, and had the tiles caught the spat when cultch would not, it would of necessity follow that oysters in France would have been very cheap, whereas, in fact, they are quite as dear as in England, and there are so few of them to be had that French agents are at this moment in this country buying all they can get hold of."

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Mr. Buckland thinks that the placing of fascines or faggots, for the use of the young oyster is (to use his own words), "a delusion and a snare." He tells us also that "the spat seems to prefer adhering to a shell that is partially decayed and softened, rather than to a new shell recently placed down."

In Canada, oysters exist under somewhat different conditions to what they do in Europe. So far as we know, they are never found so far out to sea in the Gulf of St. Lawrence, as they are in many parts of Europe. Very successful results have already been attained in the cultivation of oysters in the Gulf, by the Hon. Mr. Pope and others, but I have never had the good fortune to visit any place where oyster culture is prosecuted.

I should have judged that frost would be a serious obstacle to contend with in this country, but Mr. Pope seems to think that Canadian oysters are rarely injured by a very low temperature.

The oyster beds of the Gulf occupy, relatively, but a small area: there are none in the seas of the Province of Quebec; none, so far as we know, round the shores of Newfoundland, of the Magdalen Islands, or in the Bay of Fundy.

As we have already seen, what beds there are have been over-fished, utterly neglected, and in too many cases all but destroyed. Were the Government to follow the example set by other countries, and take prompt measures for the recuperation, protection, and fostering of the valuable oyster and lobster fisheries of the Gulf, there seems to be no reason why the supply of these important articles of food might not be increased to a very large, and perhaps almost unlimited extent.

MONTREAL, March 4th, 1874.

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APPENDIX V.

REMARKS ON THE FISHERIES OF BRITISH COLUMBIA, BY THE AGENT OF THE DEPARTMENT OE MARINE AND FISHERIES AT VICTORIA.

VICTORIA, 30th January, 1874.

SIR,—I have the honor to acknowledge the receipt of your letter of the 6th inst in reply to mine of the 12th ult.

You will ere this have received a communicati on I had the honor of forwarding from Mr. Brackman, received through Messrs. Janion and Rhodes of this place, relatin to oyster culture, &c. I have also received during the past season two similar verba applications for different localities in the Province.

I would respectfully beg leave to offer a suggestion in reference to the fishery laws for the information of the Hon. the Minister of Marine, which in my opinion would meet the present requirements of the Province. First, premising that the extension of the fishery laws of the Dominion in their entirety to this country would be productive of not substantial benefit, but would rather probably lead to complications with the Aborigines.

It is, however, desirable that a protective measure should be enacted and extended to British Columbia in favour of such persons that are desirous of embarking in the business of oyster culture, granting certain privileges for a term of years at a nominal rent. There can be no possible objection to such an enactment.

Oyster culture in this Province would soon become an important branch of industry if the rights of individuals were secured to them.

It will be many years before a necessity could exist for protecting the fisheries on the Pacific as they are on the Atlantic side, more particularly with reference to salt-water fisheries.

In the rivers and streams of British Columbia, the salmon of the varions species enter each year almost without a day's variation. Every fourth year the run of salmon is extraordinary. Last year the waters were literally crowded; this coming season will be a very good run; the year following not so good; the next, 1876, will be comparatively poor, when the following year will witness a similar run to the past season of 1873. Such is the experience of those persons who have watched the run of salmon in the Fraser each succeeding year.

Salting salmon in barrels has been carried on extensively on the Fraser for the last 50 years—originally by the Hudson Bay Company, and latterly by private individnals.

Canning salmon is now developing every year. One large firm, Messrs. Findlay, Durham & Brodie, are engaged extensively in this business. There are some others in a smaller way.

There were cured and preserved for export last year a follows :—

Canned salmon, by Findlay & Co.....	115 tons.
14 doz. 1 lb. tins in case, 22 cases to 1 ton, other parties...	80 ,,
4,000 barrels of salt salmon.	

The canned salmon is sent principally to Great Britain, while the salt fish is shipped to the Sandwich Islands and the Australian Markets.

I notice that it is contemplated by the Dominion Government to institute inspection of fish and fish oil prepared for export. This measure is essentially necessary in this

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Province, as the reputation of British Columbia salmon has suffered abroad from unprincipled persons in the export business, filling the barrels with heads and backs and shipping them as prime fish. Inspection would prevent similar future deception by establishing a Government brand.

Dog-fish liver oil is also a production giving occupation to a number of persons. A very good quality of oil is extracted, when care and clenliness is observed. Two of the Light Stations in this Province are now burning this oil exclusively, giving a luminous and brilliant light, besides being cheaper than any other oil that can be imported.

The whale fishing, experimented upon for three or four years, has not proved successful, which must be attributed more to the want of proper appliances than to the scarcity of fish, which were as numerous as ever.

The benefits arising from the Washington Treaty are anxiously hoped for in British Columbia. The negotiations which are believed to be now pending between the United States and Dominion Government, to this end would, if successful, confer a lasting benefit on this country by opening markets close to the door of the Province, and prosperity would be marked in the future of British Columbia.

I have the honor to be, Sir,
Your most obedient servant,
JAMES COOPER,
Agent Department Marine and Fisheries.

To the Hon. A. J. Smith,
Minister of Marine and Fisheries.

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APPENDIX X.

STATEMENT, of Expenditure on account of Fisheries, for the fiscal year ended 30th June, 1873.

To whom paid.	Service.	Amount.	Total.
		$ cts.	$ cts.
	Ontario.		
J. W. Kerr.....	For 12 mos.' salary as Fishery Overseer, ending 30 June, 1873	500 00	
Charles Wilkins.	do do do	200 00	
E. Boismier	do do do	200 00	
P. Kiel.....	do do do	150 00	
F. McRae.....	do do do	150 00	
G. S. Miller....	do do do	100 00	
Joseph Wilson..	do do do	100 00	
J. K. Cameron .	do do do	100 00	
William Plews .	do do do	100 00	
J. G. Hicks ...	do do do	100 00	
James Pierson..	do do do	100 00	
A. C. McKinnon	do do do	100 00	
H. Calcutt	do do do	100 00	
W. Plummer ...	9 mos.' salary as Fishery Overseer, ending 31 Mar., 1873	75 00	
H. Groves.....	12 do do ending 30 June, 1873	50 00	
W. A. Palen ...	do do do	50 00	
P. Huff	do do do	50 00	
J. Mooney	do do do	50 00	
Alex. McKenzie	do do do	50 00	
J. McMichael ..	do do do	50 00	
J. McFadden...	do do do	30 00	
Z. Quick	12½ mos.' salary as Fishery Warden do	50 00	
C. C. Joynt	do do do	50 00	
J. Wallace	do do do	40 00	
H. Hunt	do do do	20 00	
William Fahey .	Salary as Guardian at Lake Constant during seasons 1872 and 1873	20 00	
Jno. Connor....	do on Ottawa and Rideau Rivers ...	32 30	
James Bird	6 mos.' salary as Fishery Overseer, to 30 June, 1872.....	50 00	
J. W. Kerr.....	12 mos.' disbursements do ending 30 June, 1873	749 90	
Joseph Wilson .	do do do	185 25	
Charles Wilkins	do do do	163 50	
Wm. Plummer .	do do do	129 17	
F. McRae	do do do	82 11	
P. Kiel	do do do	72 00	
E. Boismier	do do do	63 00	
G. S. Miller	do do do	57 00	
Alex. McKenzie.	do do do	41 49	
J. McMichael ..	do do do	27 75	
J. G. Hicks	do do do	30 00	
A. C. McKinnon	do do do	24 10	
William Plews..	do do do	20 00	
J. Wallace	do do do	7 75	
J. Eastwood....	do do do	7 75	
H. Hunt	do do do	7 00	
W. A. Palen ...	do do do	4 50	
J. McFadden,...	do do do	4 75	
			4,344 32

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STATEMENT of Expenditure on account of Fisheries, for the fiscal year ended 30th June, 1873.—*Continued.*

To whom paid.	Service.	Amount.	Total.
	Quebec.	$ cts.	$ cts.
A. Blais.....	For 12 mos.' salary as Fishery Overseer, ending 30 June, 1873	300 00	
John Mowat ...	do do do	200 00	
P. Vibert, jun..	do do do	200 00	
W. C. Willis ...	do do do	150 00	
G. Mathurin ...	do do do	150 00	
R.W.H. Dimock	do do do	150 00	
H. W. Austin ..	do do do	150 00	
J. F. Saillant...	do do do	150 00	
P. Gendreau....	do do do	150 00	
L. P. Huot.....	do do do	100 00	
W. L. Holland .	do do do	100 00	
J. J. Letourneau	do do do	100 00	
A. A. Mooney..	do do do	100 00	
L. J. Loranger .	do do do	100 00	
J. Eden, jun. ..	do do do	50 00	
J. M. Remon...	do do do	50 00	
W. Phelan	do do do	50 00	
E. Pelletier.....	do do do	50 00	
P. E. Luke.....	do do do	50 00	
F. Thivierge....	do do do	50 00	
J. J. Fox	do do do	50 00	
E. Allard	do do do	50 00	
L. E. Grondin ..	2 mos.' salary as do do	33 33	
H. Martin.....	do do do	33 33	
D. Guay	do do do	33 33	
D. Rosa.....	12 mos.' salary as Fishery Warden, ending 30 June, 1873	50 00	
C. Demeule	6 do do ending 31 Dec., 1873	25 00	
J. Legouvé	12 do do ending 30 June, 1873	50 00	
W. H. Whiteby.	do do do	50 00	
A. Piton	do do do	20 00	
R. H. Haycock.	do do do	40 00	
J. Jourdain	do do do	68 80	
James Coffin....	Salary as Fishery Warden for 1871 and 1872.....	180 00	
Joseph Radford.	Salaries of Guardians of the Saguenay Rivers during the year 1872.....	300 00	
F. Saillant	12 mos.' disbursements as Fishery Overseer, ending 30 June, 1873..	878 57	
P. Vibert, jun..	do do do	868 69	
J. Mowat	do do do	422 96	
W. L. Holland.	do do do	375 00	
J. J. Letourneau	do do do	180 50	
F. Thivierge....	do do do	180 50	
E. Pelletier...	do do do	179 00	
H. W. Austin ..	do do do	172 48	
A. Blais.....	do do do	138 75	
R.W.H. Dimock	do do do	136 22	
W. C. Willis...	do do do	120 05	
G. Mathurin ...	do do do	119 93	
L. P. Huot	do do do	74 85	
D. Rosa.....	do do do	51 90	
J. Eden, jun. ..	do do do	36 00	
C. Demeule	do do do	32 50	
J. Legouvé	do do do	32 00	
J. J. Fox	do do do	23 50	
L. J. Loranger.	do do do	21 00	
J. M. Remon ..	do do do	20 00	
W. Phelan	do do do	20 00	
E. Allard	do do do	19 60	

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STATEMENT of Expenditure on account of Fisheries, for the fiscal year ended 30th June, 1873.—*Continued.*

To whom paid.	Service.	Amount.	Total.
	QUEBEC.—*Continued.*	$ cts.	$ cts.
J. Bermingham.	Sale of confiscated nets	28 00	
A. McNaughten	Disbursements as Fishery Guardian, for yrs. 1870 & 1871	34 00	
A. Piton	do do for year 1872	35 90	
P. Geudreau	do do to 30 June, 1873	119 25	
S. P. Bauset	Survey Matanne and Metis Rivers, in connection with building of fish-ways	125 00	
			7,829 94
	LA CANADIENNE.		
N. Lavoie	For 12 months salary as Commander, year ended 30th June, '73	1,200 00	
do	Disbursements do do	624 67	
J. U. Gregory.	Pay list of officers and crew do do	2,863 33	
M. Leblanc	Salary as Sailing Master, from 1st November, 1872, to 1st May, 1873	300 00	
do	Disbursements	188 60	
do	Labor	7 20	
F. E. Gautier.	Salary as Secretary for the season of 1872	317 50	
L. Rochette	Ferriage	1 87	
P. Sanschagrin.	Provisions	14 40	
Watson Jarvis.	do	234 77	
F. Plamondon.	do	19 08	
L. Marois	do	161 47	
R. & R. M. Shaw	do	107 74	
L. Arel	do	250 15	
John Glass	do	40 40	
H. A. Pare	do	40 00	
J. Laflamme	do	16 90	
J. A. Mailloux.	do	385 22	
A. Jolivet	Painting	4 00	
J. U. Gregory.	Sundry disbursements	49 46	
do	Wintering of schooner	95 00	
J. Marmen	Cartage	27 70	
T. Berrigan	do	8 00	
C. Viau	Towage	6 00	
J. M. Tardirel.	Painting	75 95	
Chinic & Beaudet	Hardware, paints, &c	157 27	
George Ryerson.	Paint	27 00	
G. T. Philips.	Repairs	43 20	
S. Bedard	do	116 00	
L. Gagné	do	181 38	
Talbot & Co	do	13 20	
George Bisset	do	11 59	
G. T. Davis	do	212 73	
F. O. Vallerand	Lamps and glassware	23 65	
Hamel & Bros.	Uniforms	261 51	
C. Morin	Clothing	20 00	
S. Tranquille	Blocks	18 40	
A. Boucher	Clothing	12 00	
E. Giroux	Medicine	17 00	
J. Elliott	Spars	2 00	
S. J. Shaw	Cartridges	14 26	
Audet & Robitaille	Ropes, &c.	423 72	
Watson Jarvis.	Sails	259 47	
McCaghey and Dolbec	Glassware	26 35	
J. Marmen	Firewood	6 00	

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STATEMENT of Expenditure on account of Fisheries, for the fiscal year ended 30th June, 1873.—*Continued.*

whom paid.	Service.	Amount.	Total.
	LA CANADIENNE.—Continued.	$ cts.	$ cts.
Middleton and Dawson	For Stationery	17 36	
A. Gamache	Guardian at Anticosti	21 00	
O. Vezina	Repairs	75 50	
			9,000 00
	FISH BREEDING, FISHWAYS AND OYSTER BEDS.		
S. Wilmot	For 12 months salary as Fishery Officer in charge of the Fish-breeding Establishment at Newcastle, Ontario	1,200 00	
do	Disbursements of travel	906 22	
James Story	Local Fishery Guardian at Lynd's Creek	20 00	
John Head	do do Duffin's do	30 00	
Wm. Hartrick	do do do do	40 00	
Wm. Ferguson	do do do do	30 00	
Jos. McArdell	do do Rouge River	25 00	
James Moon	do do do do	15 00	
Wm. Helliwell	do do Highland Creek	15 00	
J. G. Wilcox	do do River Credit	25 00	
Wm. Higgins	do do do do	15 00	
A. B. Wilmot	do do Baldwin's Creek	60 75	
W. Parker	do do do do	69 06	
P. Coleman	do do Barber's do	40 00	
John Munro	do do Grafton do	50 45	
George Bryant	do do do do	45 00	
H. Demarara	do do Scugog Lake	50 00	
W. Riage	Lumber	17 06	
Simmons & Jardine	Carpenter's work	67 85	
Thos. Andrews	Tape line, &c.	4 40	
J. H. Dines	Painting	7 24	
J. H. Hooper	Mason's work	1 75	
Wm. Ivory	Race way	10 00	
Jos. Wilson	Packing salmon ova	15 00	
James Gillard	Wood	3 47	
John Munroe	Fines	5 00	
James Bois	Carpenter's work	37 50	
James Wright	Eaves, troughs, and tinware	52 84	
Joseph Neevin	Labor	20 00	
J. R. Barefelt	Nails, hinges, &c.	31 71	
Dan. Allen	Wall paper	8 33	
J. Manning	Jars	2 25	
R. Fothergill	Telegrams	28 32	
do	Paints, oils, &c	19 88	
H. Hodges	Postage stamps	14 46	
F. Nicholson	Coal	48 80	
James Neevin	Caretaker and Guardian at Wilmot's Creek	300 00	
G. A. Jacobs	Lumber	51 75	
W. B. Bradley	Express charges	25 98	
R. J. Wilkinson	Legal services	15 00	
Louis Stronger	In charge of the Brassnet Fishery	157 67	
John Maracle	Labor	28 00	
N. Piper & Son	Zinc	45 49	
J. P. Stanton	Pump	8 00	
S. Wilmot	Sundry disbursements	33 50	
do	Disbursements in connection with Fish-breeding Establishment at Restigouche	148 51	
John Mowat	do do do	805 80	

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STATEMENT of Expenditure on account of Fisheries, for the fiscal year ended 30th June, 1873.—*Continued.*

To whom paid.	Service.	Amount.	Total.
	FISH BREEDING, FISHWAYS AND OYSTER BEDS.—*Continued.*		
		$ cts.	$ cts.
J. Eden	To meet cost of removing obstructions in Dartmouth River, Quebec	150 00	
J. F. Whiteaves	Disbursements in connection with deep-sea dredging, &c.	999 90	
D. Ross	Services as Special Guardian	127 00	
A. B. Wilmot	Disbursements, &c., as care taker, Fish-breeding Establishment, Gaspé Basin	200 00	
L. Gagne	Guardian's house, Mingan River	200 00	
S. Wilmot	Disbursements in connection with Fish-breeding Establishments, Gaspé Basin, Restigouche, and Miramichi	450 00	
J. Levesque	Making a canoe	26 00	
Quebec and Gulf Ports Steamship Co.	Freight	4 80	
American Net & Twine Co.	Nets	44 66	
S. Peters	Wooden troughs	60 00	
John Mowat	Fish-breeding Establishment, Restigouche River	149 45	
John Connor	Special Guardian	38 00	
H Thomas	Local Fishery Guardian at Salmon River	93 00	
Wm. Holmes	Guardian of Lakes in Ottawa County, set apart for natural propagation of fish	25 00	
Asa Dow	Disbursements in connection with Fish-breeding, N. B.	190 90	
W. H. Tuck	Legal services in removal of obstructions to ascent of fish in Shediac River	313 33	
J. H. Harding	Law costs do do do	409 61	
Dingee Scribner	For fishway models	18 00	
W. T. Urquhart	Report on Manitoba Fisheries	100 00	
			7,360 92
	NEW BRUNSWICK,		
	County Albert.		
John Taylor	For 12 months' salary, ending 30th June, 1873	40 00	
Richard Gross	do do do do	30 00	
J. Beck	do do do do	30 00	
W. Akerley	6 do do do	50 00	
J. E. Kenney	do do do do	20 00	
Bartlett Olliver	do do do do	20 00	
			190 90
	County Carleton.		
H. Harrison	For 12 months' salary, ending 30th June, 1873	100 00	
H. Miller	do do do	30 00	
George Burt	do do do	30 00	
			160 00
	County Charlotte.		
W. B. McLaughlin	For 12 months' salary, ending 30th June, 1873	240 00	
P. Curran	do do do do	120 00	
L. Best	do do do do	100 00	
S. Dick	do do do do	30 00	
R. Dickson	do do do do	30 00	
J. W. Fountain	6 months' salary, to 31st December, 1872	50 00	
B. L. Cunningham	do do do do	15 00	
M. J. C. Andrews	do do 30th June, 1873.	15 00	
James Brown	do do do do	50 00	
			850 00

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STATEMENT of Expenditure on account of Fisheries, for the fiscal year ended 30th June, 1873.—*Continued.*

To whom paid.	Service.	Amount.	Total.
	NEW BRUNSWICK.—*Continued.*	$ cts.	$ cts.
	County Gloucester.		
James Hickson	For 12 months' salary, ending 30th June, 1873	250 00	
Juste Haché	do do do do	100 00	
Wm. Bateman	do do do do	50 00	
J. Savoy	do do do do	30 00	
John Veno	do do do do	30 00	
			460 00
	County Kent.		
Charles Cormier	For 12 months' salary, ending 30th June, 1873	100 00	
J. McD. Sutherland	do do do do	50 00	
J. B. Legaré	do do do do	30 00	
M. A. Girouard	do do do do	30 00	
James Harnett	do do do do	30 00	
			240 00
	County Kings.		
Isaac Foshay	For 12 months' salary, ending 30th June, 1873	100 00	
Samuel Gosline	do do do do	50 00	
S. F. Ryan	do do do do	30 00	
N. H. Deveber	6 do do do	25 00	
			205 00
	County Northumberland.		
John Hogan	For 12 months' salary, ending 30th June, 1873	305 00	
N. B. T. Underhill	do do do do	160 00	
C. Parker	do do do do	160 00	
James Russell	do do do do	150 00	
A. Perley	do do do do	100 00	
K. Cameron	do do do do	100 00	
J. Williston	do do do do	100 00	
Thos. Savoy	do do do do	30 00	
Aaron Hovey	do do do do	30 00	
G. Bryanton	do do do do	30 00	
P. Bergin	do do do do	30 00	
Thos. Smith	do do do do	30 00	
P. Gillis	do do do do	30 00	
Denis Hogan	do do do do	30 00	
Thos. McKenzie	do do do do	30 00	
Robt. Brunner	do do do do	30 00	
N. Campbell	do do do do	30 00	
Thos. Harris	Six months' ending 31st December, 1872	15 00	
Henry Oldfield	do do do	15 00	
David Somers	do do 30th June, 1873	30 00	
			560 00
	County Queens.		
I. Langan	For twelve months' salary, ending 30th June, 1873	30 00	
Jno. Secord	do do do do	30 00	
I. T. Hetherington	do do do do	30 00	
			90 00

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STATEMENT of Expenditure on account of Fisheries, for the fiscal year ended 30th June, 1873.—*Continued.*

To whom paid.	Service.	Amount.	Total.
	NEW BRUNSWICK.—*Continued.*	$ cts.	$ cts.
	County Restigouche.		
E. Ferguson	For twelve months' salary, ending 30th June, 1873.....	100 00	
W. McMillan...	do do do do	100 00	
Jas. McMillan..	do do do do	25 00	
Alex. McPherson	Six months' do do do	12 50	
J. Galbraith....	do do ending 31st December, 1872.....	12 50	
			250 00
	County St. John.		
C. E. Godard...	For twelve months' salary, ending 30th June, 1873.....	150 00	150 00
	County Sunbury.		
Reuben Hoben..	For twelve months' salary, ending 30th June, 1873	100 00	100 0
	County Victoria.		
Chs. McCluskey	For twelve months' salary, ending 30th June, 1873.....	100 00	
Geo. Bedell.....	do do do do	30 00	
John Jamer	do do do do	30 00	
J. McDougall...	do do do do	30 00	
D. Frazer.....	do do do do	30 00	
			220 00
	County Westmoreland.		
W. B. Deacon..	For twelve months' salary, ending 30th June, 1873.....	60 00	
D. T. Cormier..	do do do do	60 00	
			120 00
	County York.		
C. McPherson ..	For twelve months' salary, ending 30th June, 1873.....	150 00	
James Campbell	do do do do	30 00	
Wm. Brown....	do do do do	30 00	
Alex. Moir	do do do do	30 00	
			240 00
W. H. Venning.	Disbursements as Inspector of Fisheries, for the year ended 30th June, 1873	60 00	
E. Ferguson....	do as Fishery Overseer do do	30 00	
W. McMillan...	do do do do	12 00	
Jas. Hickson....	do do do do	176 00	
Thos. Savoy....	do do do do	21 75	
Justinian Savoy.	do do do do	15 00	
Juste Haché....	do do do do	20 00	
Amos Perley....	do do do do	30 00	
C. Parker	do do do do	109 50	
John Hogan....	do do do do	127 15	
K. Cameron....	do do do do	17 00	
D. Somers	do do do do	3 00	
John Williston..	do do do do	78 00	
William Wyse..	do do do do	47 00	
James Russell ..	do do do do	17 00	

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STATEMENT of Expenditure on account of Fisheries, for the fiscal year ended 30th June, 1873.—*Continued.*

To whom paid.	Service.	Amount.	Total.
	NEW BRUNSWICK.—*Concluded.*	$ cts.	$ cts.
D. T. Cormier..	Disbursements as Fishery Overseer, for the year ended 30th June, 1873	39 20	
Charles Cormier.	do do do do	30 00	
J. McD. Sutherland	do do do do	50 00	
W. B. Deacon..	do do do do	25 00	
John Taylor....	do do do do	10 00	
B. L. Cunningham	do do do do	20 00	
J. W. Fountain.	do do do do	20 00	
P. Curran.....	do do do do	66 50	
W. B. McLaughlin	do do do do	50 00	
B. N. T. Underhill	do do do do	34 25	
Leonard Best...	do do do do	4 00	
Isaac Foshay...	do do do do	15 00	
Samuel Gosline.	do do do do	79 65	
R. Hoben.....	do do do do	27 20	
C. McPherson..	do do do do	88 30	
C. E. Godard...	do do do do	50 00	
H. Miller.....	do do do do	15 00	
H. Harrison....	do do do do	27 75	
C. McCluskey..	do do do do	40 00	
R. N. Venning.	For twelve months' salary, as Clerk, ending 30th June, 1873.	400 00	
D. Cameron....	Removing obstructions in Kyte's Brook	40 00	
J. Nickerson...	Travelling expenses	19 00	
W. H. Tuck....	Legal services	158 66	
B. L. Cunningham	Salary for six months, to 30th June, 1873	15 00	
J. W. Fountain.	do do do	50 00	
J. McD. Sutherland	Law costs	10 00	
W. H. Venning.	Balance of travelling expenses, &c	195 31	
do	Postages, &c	5 83	
			6,859 06
	NOVA SCOTIA.		
W. H. Rogers..	For twelve months' salary as Fishery Officer, ended 30th June, 1873		800 00
	County Annapolis.		
W. T. Carty....	For twelve months' salary, ended 30th June, 1873	120 00	
G. Hardwick. ..	do do do do	25 00	
B. Lecain.....	do do do do	25 00	
J. Durland.. ..	do do do do	25 00	
Miner Clark....	do do do do	25 00	
			220 00
	County Antigonish.		
Angus McDonald	For twelve months' salary, ended 30th June, 1873	30 00	
J. Dexter.....	do do do do	30 00	
Colin Chisholm.	do do do do	25 00	

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STATEMENT of Expenditure on account of Fisheries, for the fiscal year ended 30th June, 1873.—*Continued.*

To whom paid.	Service.	Amount.	Total.
	NOVA SCOTIA.—*Continued.*	$ cts.	$ cts.
	County Antigonish.—Continued.		
A. McDonald...	For twelve months' salary, ended 30th June, 1873	25 00	
John Smith.....	do do do do	25 00	
Jas. McLean...	do do do do	25 00	
H. Cameron....	do do do do	25 00	
J. Cumming....	do do do do	20 00	
D. Fraser	do do do do	20 00	
A. Randall. ..	do do do do	15 00	
A. Chisholm....	six months' salary, ended 31st December, 1873	12 50	
A.W.McDonald	do do 30th June, 1873.	62 50	
			315 00
	County Cape Breton.		
F. Quinan	For twelve months' salary, ended 30th June, 1873.	120 00	
A. Spencer.....	do do do do	25 00	
Thos. Burke....	do do do do	25 00	
J. McEachen...	do do do do	25 00	
Thos. Moore	do do do do	20 00	
D.McDonald...	do do do do	20 00	
Alex. McLean..	do do do do	20 00	
			255 00
	County Colchester.		
W. Blair	For twelve months' salary, ended 30th June, 1873.....	100 00	
J.W. Davidson.	do do do do	100 00	
J. Bonyman....	do do do do	40 00	
R.C. Archibald.	do do do do	25 00	
S. Frame.....	do do do do	25 00	
R.J.Pollock....	do do do do	25 00	
Geo. Fulton....	do do do do	25 00	
H. Gass.....	do do do do	25 00	
R. Fletcher	do do do do	25 00	
H. Urquhart.. .	do do do do	25 00	
H.M.Fulton....	do do do do	25 00	
J.A.P.McLellan	do do do do	25 00	
			465 00
	County Cumberland.		
T.H. Patton....	For twelve months' salary, ended 30th June, 1873.	100 00	
O. Fillmore	do do do do	25 00	
D.Stewart.. ...	do do do do	25 00	
J. Brownell....	do do do do	25 00	
Asa Fillmore ...	do do do do	25 00	
D. Corbett.....	do do do do	25 00	
Moses Harrison.	do do do do	25 00	
J. H. Barnes...	do do do do	25 00	
F. L. Jenks....	do do do do	25 00	
W.D.Rindress .	do do do do	30 00	
Jas. King	Ten months' do do do	83 35	
			413 35

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STATEMENT of Expenditure on account of Fisheries, for the fiscal year ended 30th June, 1873.—*Continued.*

To whom paid.	Service.	Amount.	Total.
	NOVA SCOTIA.—*Continued.*	$ cts.	$ cts.
	County Digby.		
J. H. Morehouse	For twelve months' salary, ended 30th June, 1873	120 00	
W. Odell	do do do do	25 00	
B. R. Robicheau	do do do do	25 00	
Lochlin McKay	do do do do	25 00	
Robt. Journey	do do do do	25 00	
J. P. Thibodeau	do do do do	25 00	
			245 00
	County Guysborough.		
D. Gunn	For twelve months' salary, ended 30th June, 1873	30 00	
Wm. Pride	do do do do	30 00	
Thos. McKeen	do do do do	30 00	
Allen McQuarrie	do do do do	40 00	
Edward Jordan	do do do do	30 00	
Jas. Cook	do do do do	23 00	
W. P. Carrit	do do do do	20 00	
Robt. McKay	do do do do	15 00	
Jas. Nickerson	do do do do	15 00	
Chas. Kenny	do do do do	15 00	
Jas. R. Bruce	do do do do	10 00	
Jas. A. Tory	do do do do	75 00	
			335 00
	County Halifax.		
E. Sibley	For twelve months' salary, ended 30th June, 1873	100 00	
John Fitzgerald	do do do do	100 00	
Wm. Guild	do do do do	40 00	
Wm. Hall	do do do do	40 00	
Arch. Kidston	do do do do	40 00	
Nathl. Mason	do do do do	40 00	
And. Horne, jun	do do do do	20 00	
J. B. Gilbert	do do do do	20 00	
			400 00
	County Hants.		
P. S. Burnham	For twelve months' salary, ending 30th June, 1873	100 00	
T. B. O'Brien	do do do do	100 00	
J. W. Dinsmore	do do do do	30 00	
Jas. Mosher	do do do do	30 00	
Jas. O'Brien	do do do do	30 00	
Joseph Mosher	do do do do	40 00	
			330 00
	County Inverness.		
M. A. Ross	For twelve months' salary, ended 30th June, 1873	100 00	
Wm. Grant	do do do do	100 00	
J. Carmichael	do do do do	25 00	
A. McDougall	do do do do	25 00	
R. Phillips	do do do do	25 00	
J. McRae	do do do do	25 00	
B. Dwyer	do do do do	25 00	
Angus McIntyre	do do do do	25 00	

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STATEMENT of Expenditure on account of Fisheries, for the fiscal year ending 30th June, 1873.—*Continued.*

To whom paid.	Service.	Amount.	Total.
	NOVA SCOTIA.—*Continued.*	$ cts.	$ cts.
	County Inverness.—Continued.		
Donald McDonald.....	For twelve months' salary, ended 30th June, 1873	25 00	
Angus Cameron	do do do do	25 00	
Peter Coady.. .	do do do do	25 00	
			425 00
	County Kings.		
Jno. E. Starr...	For twelve months' salary ending 30th June, 1873	250 00	
W. McIntyre ...	do do do do	30 00	
J. Buchanan....	do do do do	20 00	
H. C. Eagles....	six do do do	10 00	
Irad Benjamin..	do do do do	10 00	
			320 00
	County Lunenburg.		
D. Dimock	For twelve months' salary ended 30th June, 1873	100 00	
Henry S. Jost ..	do do do do	100 00	
E. Frail	do do do do	25 00	
Jas. Corkum...	do do do do	25 00	
Jas. Languille ..	do do do do	25 00	
Chas. Pernette..	do do do do	25 00	
Jas. Meesman ..	do do do do	25 00	
Edward Morgan.	do do do do	25 00	
W. Vienot .	do do do do	25 00	
G. A. Nesbit ...	do do do do	25 00	
J. S. McKeen ..	six do 31st December, 1872.....	12 50	
W. Mosher	do do 30th June, 1873	12 50	
J. Hutt	do do do do	12 50	
John Artz	do do do do	12 50	
			450 00
	County Pictou.		
Thos. Graham ..	For twelve months' salary ended 30th June, 1873...	100 00	
Wm Smith	do do do do	30 00	
Donald Rankin .	do do do do	25 00	
Jas McMillan ..	do do do do	25 00	
Wm. Graham...	do do do do	25 00	
Robt. Archibald.	do do do do	25 00	
D. Creighton ...	do do do do	25 00	
John Cameron ..	do do do do	25 90	
A. McDonald...	do do do do	20 00	
Geo. Murray ...	six do 31st December, 1872.....	12 50	
Walter Murray.	do do do do	50 00	
			362 50
	County Queen's.		
S. T. N. Sellon..	For twelve months' salary ending 30th June, 1873.....	120 00	
T. Ford	do do do do	50 00	
H. Hooker	do do do do	30 00	
James Farquhar.	do do do do	30 00	
J. Fitzgerald ...	do do do do	30 00	
S. Clements.....	do do do do	25 00	
W. Buchanan ..	do do do do	20 00	

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STATEMENT of Expenditure on account of Fisheries, for the fiscal year ended 30th June, 1873.—*Continued.*

To whom paid.	Service.	Amount.	Total.
	NOVA SCOTIA.—*Continued.*		
		$ cts.	$ cts.
	County Queen's.—Continued.		
B. Miles.....	For twelve months' salary, ended 30th June, 1873.....	20 00	
S. Smith	do do do do	20 00	
J. Smith	do do do do	15 00	
J. N. Mack.....	six do do do	15 00	
			375 00
	County Richmond.		
D. Cameron	For twelve months' salary ended 30th June, 1873.....	125 00	
J. H. Ballam ...	do do do do	125 00	
Alex. Urquhart.	do do do do	30 00	
H. McKinnon ..	do do do do	30 00	
P. W. Grouchy .	do do do do	30 00	
JohnProctor,jun.	do do do do	25 00	
			365 00
	County Shelburne.		
W. Muir, jun...	For twelve months' salary ending 30th June, 1873.....	125 00	
Jas. Turner.. ..	do do do do	30 00	
L. Freeman.....	do do do do	25 00	
P. Crowell.....	do do do do	20 00	
W. McKay.....	do do do do	20 00	
M. Greenwood..	do do do do	20 00	
R. McGill	do do do do	20 00	
H. Ackerman...	do do do do	20 00	
Geo. Acher	do do do do	15 00	
			295 00
	County Victoria.		
D. McRae, jun..	For twelve months' salary ended 30th June, 1873.....	120 00	
J. McLellan	do do do do	25 00	
D. McQuarrie ..	do do do do	25 00	
D. McMillan ...	do do do do	25 00	
D. McRae	do do do do	25 00	
Angus McKenzie.	For six months' salary ended 31st December, 1872	12 50	
H. McKenzie...	do do do do	12 50	
			245 00
	County Yarmouth.		
Thos. B. Crosby.	For twelve months' salary ended 30th June, 1873	100 00	
J. A. Hatfield ..	do do do do	37 50	
Wm. Kavanagh.	do do do do	25 00	
Wm. Prosser ...	do do do do	25 00	
E. Nickerson ...	do do do do	25 00	
Ed. Perry	do do do do	25 00	
Robt. Baker....	six do do do	12 50	
			250 00
	Disbursements.		6,865 85
W. H. Venning.	Disbursements as Inspector of Fisheries for year ended 30th June, 1873.....	.....	100 00
W. H. Rogers ...	Disbursements as Fishery Officer for the year ended 30th June, 1873.....	.....	305 65

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STATEMENT of Expenditure on account of Fisheries, for the fiscal year ended 30th June, 1873.—*Continued*

To whom paid.	Service.	Amount.	Total.
	NOVA SCOTIA.—*Concluded.*	$ cts.	$ cts.
	Disbursements.—Continued.		
T. H. Patton ...	Disbursements as Fishery Overseer for the year ended 30th June, 1873		18 00
James King	do do do do		20 00
W. T. Carty....	do do do do		40 00
J. H. Morehouse	do do do do		45 00
S. T. N. Sellon..	do do do do		91 12
W. Muir, jun...	do do do do		40 00
E. Sibley.	do do do do		80 00
J. Fitzgerald ...	do do do do		60 00
D. McRae.....	do do do do		50 00
W. Murray.....	do do do do		30 00
Thos. Graham ..	do do do do		30 00
F. Quinan,.....	do do do do		60 00
J. E. Starr	do do do do		60 00
W. Blair	do do do do		28 95
James Bonyman.	do do do do		10 00
J. W. Davidson.	do do do do		30 00
T. B. Crosby....	do do do do		54 55
Daniel Dimock..	do do do do		30 00
H. S. Jost	do do do do		40 00
M. A. Ross.....	do do do do		45 00
W. Grant	do do do do		30 00
D. Cameron	do do do do		30 00
J. H. Ballam...	do do do do		35 00
P. S. Burnham..	do do do do		30 00
Jas. A. Tory....	do do do do		115 95
do	Disbursements as Fishery Overseer for two years to 31st December, 1872		300 00
S. Crimp	Expenses in connection with fishway at Musquodoboit		18 00
E. Ryan.....	Law costs		6 00
T. B. O'Brien...	Disbursements as Fishery Overseer for the year ending 30th June, 1873		40 00
			8,687 07
	Total		$14,083 30

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APPENDIX Y.

STATEMENT of Expenditure in connection with Marine Police, for the fiscal year ended 30th June, 1873.

—	Amount	Total.
Schooner New England.	$ cts.	$ cts.
J. H. Harding, Pay Lists of officers and crew, from 1st July to 30th November, 1872	1,908 77	
Wm. Muirhead, Charter from 1st July to 30th November, 1872	1,700 00	
W. Ives & Co., provisions	152 91	
J. Parker, do	29 50	
Hon. Wm. Muirhead, provisions	264 74	
J. & H. Smith & Co., do	63 49	
H. & W. Meagher, do	54 19	
L. Hart, do	66 53	
J. Kelly, supplies	4 70	
Hill & Ingraham, supplies	16 69	
D. McArthur, water	8 03	
G. Hutchinson, rent of Chronometer	18 00	
M. McIntosh, telegrams	6 26	
S. W. McCully, adjusting Compass	3 50	
A. & H. Creighton, Charts	4 00	
Wm Tobin, travelling expenses	16 50	
W. T. Frost, disbursements during the season	96 55	
		4,414 36
Schooner P. Mitchell.		
J. H. Harding, Pay Lists of officers and crew, from 1st July to 19th November, 1872	2,133 81	
Molson & Co., Charter from 15th June to 30th November, 1872	2,200 00	
J. H. Harding, outfitting	308 16	
S. Tufts, provisions	282 65	
J. Eden, do	22 55	
J. Casey, do	34 49	
G. Fraser, do	51 13	
L. Marois, do	16 50	
A. McDonald, provisions	68 23	
Hon. W. Muirhead, provisions	85 57	
J. Le Boutillier, do	17 65	
W. H. Ives & Co., do	111 27	
R. P. Grant, do	43 46	
Vane & Co., do	1 63	
Della Torre, repairing telescope	14 50	
W. & J. Lawton, wharfage	10 50	
A. P. Neil, lumber	20 21	
McDonald & Co., row locks	6 00	
J. E. Butler, oars	8 05	
J. B. Dartil, boats	50 00	
E. W. Chipman, ensign	9 00	
E. Bobin & Co., gun tackle &c	113 14	
G. A. Blair, clothing	65 00	
G. Hutchinson, repairing clock	1 00	
Davis & Co., dockage	1 20	
S. H. Fought, canvas	4 07	
C. Neal, cartage	9 15	
D. M. Brown, disbursements	312 09	
		6,001 01

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STATEMENT of Expenditure in connection with Marine Police, for the fiscal year ended 30th June, 1873.—*Continued.*

—	Amount.	Total.
Schooner J. W. Dunscomb.	$ cts.	$ cts.
J. H. Harding, Pay Lists of officers and crew, from 1st July to 31st October, and from 1st May to 30th June, 1873	2,864 72	
W. Blizard, Charter from 1st July to 30th November, 1872	1,900 00	
W. D. O'Brine, purchase of vessel	9,000 00	
W. Blizard, outfitting	830 04	
W. M. Harrington, provisions	46 68	
W. Cotter & Sons, do	82 99	
Mitchell & Co., do	399 53	
Vane & Co., do	58 25	
S. Tufts, do	247 46	
W. Block, ship stores	148 02	
Geo. Stewart, medicines	7 20	
T. Forham, ensign	10 50	
L. Hart, paint, oil, &c	62 67	
J. U. Tory, leather, nails, &c	55 54	
J. N. Purdy, ballasting	70 83	
G. T. Riley, do	67 50	
J. Domville, do	13 50	
J. McCaffery, wharfage	4 95	
J. G. Berryman, hardware	206 75	
M. Mone, labour	21 91	
W. G. Hunt, carpentering	254 90	
Gallagher & Young, water-casks	7 00	
P. Doody, caulking	44 79	
S. G. Blizard, lumber	150 51	
G. B. Bartelow, wharfage	4 80	
J. Fairweather, do	15 20	
E. Ross, oars	10 00	
C. E. Burnham, furniture	18 50	
G. F. Smith, rope, &c	199 61	
S. Dunlop, spars	50 00	
S. H. Fought, repairing sails	160 08	
E. Balcomb, blacksmith's work	99 58	
R. P. & W. F. Starr, coal	10 36	
J. Drake, repairing blocks	29 42	
J. & A. McMillan, log-books	1 90	
A. Mills, charts	3 50	
A. & H. Creighton, charts	4 50	
Bowes & Evans, repairs to stoves	21 41	
R. A. Dickson & Son, lumber	9 55	
B. Barbour, painting	44 08	
McDonald & Co., row-locks	12 08	
J. Jenkins, survey	3 00	
G. F. Sancton, towing	14 00	
R. W. Thomas, do	6 00	
J. McNeil, attending survey, Port Hood Harbour	16 00	
A. C. Smith, medicines	4 88	
P. Judge, water	75	
W. T. Frost, contingencies	50 00	
J. A. Tory, do	126 91	
		17,472 35
Schooner S. G. Marshall.		
J. H. Harding, Pay Lists of officers and crew, from 1st July to 30th October, 1872	1,557 45	
W. M. Harrington, provisions, &c	235 37	
John Brown, do	133 54	

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STATEMENT of Expenditure in connection with Marine Police, for thl fiscal year ended 30th June, 1873.—*Continued.*

—	Amount.	Total.
Schooner S. G. Marshall.—Continued.	$ cts.	$ cts.
W. H. Ives & Co., provisions, &c	16 80	
P. Smith & Co., do	53 90	
Daws & Co., dockage	7 20	
W. H. Ives & Co., oil, &c	14 95	
H. & W. Meohin, beef	25 08	
L. P. Fairbanks, wharfage	40 90	
J. A. Nickerson, Sundry disbursements	323 95	
W. C. Godsow, do	50 00	
		2,458 24
Schooner Katie.		
J. H. Harding, Pay Lists, from 1st July to 31st October, 1872	1,504 00	
J. Forrestall, Charter from 1st July to 31st October, 1872	1,200 00	
W. H. Ives & Co., provisions	133 34	
H. W. Meagher, do	22 53	
J. Kelly, do	21 82	
M. A. Tracey, do	7 94	
J. Forrestall, lumber, oils, &c	133 48	
J. Forham, ensign	10 50	
G. Matson, contingencies	50 00	
		3,083 61
Schooner J. H. Nickerson.		
J. H. Harding, Pay List of officers and crew, for June, 1873	250 27	
H. W. Johnston, repairs, outfits, provisions, &c., getting ready for service	1,248 67	
E. Bennett, wages and watchmen	52 73	
J. T. Wylde, dockage	23 40	
J. H. Harding, wages of workmen	61 90	
R. R. Call, paints, provisions, &c	570 55	
W. Wall, provisions, &c	231 76	
		2,439 28
Schooner Stella Maris.		
J. U. Gregory, Pay List of officers and crew, from 1st July to 30th October, 1872	1,779 74	
J. U. Gregory, salary of Capt. Lachance, for November	100 00	
L. Roy, Charter, 1st July to 22nd October, 1872	1,120 00	
L. Guerard, bedding	4 50	
T. M. Tardivel, painting	7 35	
C. Vezina, repairs to anchor	4 00	
F. O. Vallerand, chimneys, &c	7 70	
Gulf Port Steamship Co., freight, &c	74 75	
J. Le Boutillier, ship-stores	125 95	
E. Lanquedock, firewood	10 00	
J. E. Collis, ship-stores	5 60	
Collas & Slous do	4 34	
N. Mercier, lamps, &c	1 50	
Dinning & Webster, flags	54 00	
G. Ryerson, flags	15 00	
Middleton & Dawson, stationery	6 55	
Audet & Robitaille, rope	10 90	
S. Bedard, stove	15 55	
P. McCaffery, sawing wood	12 00	
Chenic & Baudet, hardware	39 40	
Richelieu Co., freight	20 75	

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STATEMENT of Expenditure in connection with Marine Police, for the fiscal year ended 30th June, 1873.—*Continued.*

—	Amount.	Total.
Schooner Stella Maris.—Continued.	$ cts.	$ cts.
T. Berrigan, labour	8 00	
J. Deegan, do	3 00	
Mrs. Roullard, washing	10 00	
J. Johnston, sundries	11 25	
P. G. Huot, postage	22 99	
R. & R. M. Shaw, provisions	55 97	
L. Marvis, do	30 49	
L. Arel, do	95 99	
J. Eden, do	33 49	
J. LeBoutillier, do	17 50	
E. Roy, do	15 00	
J. Meagher, do	9 35	
H. Laws. do	10 00	
G. Dimeresque, do	7 11	
E. Plante, do	6 60	
J. Blais, do	3 42	
W. Millar, do	10 20	
E. Turcott, do	0 25	
F. Laflamme, do	28 60	
Gibb, Laird & Co., do	70 41	
N. Lavoie, special service	100 00	
J. U. Gregory, sundry disbursements	70 20	
Montreal Telegraph Co, messages	252 39	
L. H. Lachance, disbursements for the season	530 70	
E. E. Buteau, petty expenses	27 51	
		4,850 00
GENERAL ACCOUNT.		
J. J. Foote, advertising	100 00	
J. W. Bethune, telegrams	321 24	
Western Union Telegraph Co., telegrams	92 62	
Dinning & Webster, flags	96 00	
J. Haws & Co., flags	46 51	
P. Power, blue shirts	40 80	
G. W. Day, printing	14 00	
W. R. Clarke, to pay special services	4,000 00	
H. Chubb & Co., printing	48 78	
R. P. Grant, freight	29 65	
R. A. Gregory, scow hire	4 00	
H. Leonard, to pay special services	500 00	
W. Carpenter, passage of seamen	13 35	
W. Wyse, services protecting fisheries in vicinity of Escuminac Point and Miramichi Bay	200 00	
J. H. Harding, sundry disbursements	169 31	
Capt. P. A. Scott, supervision of Marine Police for fiscal year ended 30th June, 1873	400 00	
D. Thomas, to pay special services	2,900 00	
Glasgow & Black, sounding line	9 99	
H. Chubb & Co., stationery	70 20	
J. Livingston, special services	300 00	
W. H. Venning, do	1,300 00	
P. Boulet, do	23 00	
H. W. Johnston, do	19 00	
D. Currie, do	140 00	
J. G. Lawton, do	2,000 00	
J. Harding, sundry disbursements	37 60	
Hon. W. A. Henry, professional services in connection with vessels seized for violation of Fisheries Act	200 00	
		13,076 05
		53,794 90

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INDEX TO APPENDICES.

PART I.

MARINE BRANCH.

No.		Page
1.	Statement of Expenditure on Account of Lights above Montreal	2
2.	Statement of Expenditure by Trinity House, Montreal	7
3.	Statement of Expenditure in connection with maintenance of Lights between Quebec and Montreal	8
4.	Report of Trinity House, Quebec	10
	Statement of Expenditure	13
5.	Statement of Expenditure on account of Dominion Steamers	14
	Subsidies to Steamers	18
6.	Report of Agent at Quebec	19
	Statement of Expenditure for Maintenance of Lights below Quebec	42
7.	Report of Agent for New Brunswick	47
	Report of Inspector of Lights	54
	Statement of Expenditure for Maintenance of Lights	58
8.	Report of Agent for Nova Scotia	65
	Statement of Expenditure for Maintenance of Lights	72
	Statement of Receipts on account of casual revenue	87
	Statement of Expenditure in connection with Sable and Seal Island Humane Establishments	88
9.	Report of Agent for British Columbia	89
	Statement of Expenditure for Maintenance of Lights	93
	Report on services rendered by Dominion steamer *Sir James Douglas*	95
10.	Statement of Expenditure for Construction of Lighthouses, Lightships and Fogwhistles throughout the Dominion	97
11.	Statement of Expenditure on account of Steamboat Inspection	105
12.	Report of Chairman of Board of Examiners of Masters and Mates	106
	List of Certificates of Competency and Service granted to Masters and Mates for the six months ended 30th June, 1873	111
	Statement of Expenditure in connection with the examination and classification of Masters and Mates	118
	Copy of Her Majesty's Order in Council, giving effect to Certificates of Competency issued in Canada	119
	Notice to Candidates for examination as Masters and Mates and copy of Rules and Regulations relating thereto	122
	Further notice to Candidates	125
	Forms of Certificates of Competency and Service	126
13.	Report of the Marine Hospital at St. John, New Brunswick	128

Digitized by Google

No. Page

14. Report of the Marine Hospital at St. Andrew's, New Brunswick... 12
15. Statement of Expenditure on account of Marine and Emigrant Hospital, Quebec..... 13
16. Statement of Expenditure on account of Marine Hospitals, Sick and Disabled Seamen, and Shipwrecked and Distressed Seamen..... 13
17. Statement of Receipts on account of Sick Mariners' Fund for entire Dominion..... 13
18. Report of the Shipping Master, Quebec..... 14
19. Report of the Shipping Master, St. John, New Brunswick..... 14
20. Report of the Shipping Master, Pictou, Nova Scotia..... 14
21. Report on Montreal Water Police..... 14
Return shewing number of prisoners arrested... ... 14
22. Report of the Chief of Quebec River Police 15
Statement giving the number of persons arrested, the various offences committed by those persons, and their nationality. 15
23. Statement of Expenditure on account of Harbour Police, Montreal and Quebec 15
24. Statement of amount of Collections and Expenditure on account of Harbour Improvements, collected at Ports at which tonnage dues have been imposed by proclamation. 15
25. Report on Montreal Observatory 15
Table of Observations..... 15
26. Report on Quebec Observatory..... 15
Statement of Expenditure on account of Quebec Observatory 15
27. Third Report of the Meteorological Office 16
Table I. Monthly, quarterly and annual means of temperature at various places in the Dominion of Canada, derived from three or more years... 17
II. Averages of the highest temperature in each month and year, for various places in the Dominion of Canada, from three or more years, with the absolutely highest temperature in each series 17
III. Averages of the lowest temperature in each month and year, for various places in the Dominion of Canada, from three or more years, with the absolutely lowest temperature in each series 17
IV. Monthly, quarterly and annual rain-fall, and the annual depth of rain and snow reduced to water, from three or more years 17
V. Mean temperatures of the several months at stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive..... 17
VI. Highest temperature in each month at the several stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive..... 18
VII. Lowest temperature in each month at the several stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive 18
VIII. Mean temperature in each quarter and in the year, from September, 1872, to August, 1873, with the highest and lowest temperatures in the year, and the dates of their occurrence .....
IX. to XX. Daily mean temperatures at certain stations in the Dominion of Canada.... 18
XXI. Means of daily temperatures at the stations in Tables IX. to XX., collected in five-day periods in the year, September, 1872, to August, 1873, inclusive 19
XXII. Percentage of cloud in each month and in the year, at certain stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive.. 2
XXIII. Rain-fall in each month and in the year, at the several stations in the Dominion of Canada, from September, 1872, to August, 1873, inclusive; the stations in Ontario and Nova Scotia being divided into districts..... 2
XXIV. Quarterly rain-fall at the several stations, with the fall of snow in each month, and the total precipitation of rain and melted snow, from September, 1872, to August, 1873, inclusive..... 2

Digitized by Google

No. Page

XXV. Number of days on which rain fell in each month and in the year, at the several stations given in Table XXIII.... 208

XXVI. Quarterly number of days of rain, with the number of days of snow, during the period September, 1872, to August, 1873, inclusive 211

XXVII. Quarterly average depth of rain in the several Provinces, with the average depth of snow in each month and in the year, and the average number of days in the same period 214

XXVIII. Average depth of rain in inches for the several Provinces of the Dominion of Canada, from September, 1872, to August, 1873, inclusive, with the average of the number of days of rain-fall in the same period; Ontario and Nova Scotia being divided into districts 215

XXIX. Differences between the mean temperatures in Table V., and the average means derived from three or more years, as shewn in Table I. The deviations being marked (+) or (—) according as the means in Table V. are greater or less than the standards with which they are compared 216

Summary of Expenditure of the Meteorological Office 217

28. Report on Fort Howe Observatory, St. John, New Brunswick 218

29. Statement of Trips made by the Steamships of the Quebec and Gulf Ports Steamship Company, between Quebec and Pictou, calling at Intermediate Ports, from 7th May, to 26th November, 1873, under their Agreement with the Government of the Dominion of Canada, with the time of Arrival and Departure from Quebec and Pictou 219

30. Statement of Wrecks and Casualties to Sea-going Vessels, from 1st January to 31st December, 1873, as Compiled from Returns received by the Department 222

31. Statement of Wrecks and Casualties to Inland Vessels, from 1st January to 31st December, 1873, as Compiled from Returns received by the Department 238

32. Statement of Expenditure on Account of Investigation relating to Wrecks and Casualties 240

33. Statement of Expenditure of account of Rewards for Saving Life, Purchase of Life Boats, Life Preservers, etc. 241

34. Report of the Harbour Master at Halifax, Nova Scotia 242

Harbour Master's Receipts and Disbursements 243

35. Report of Chairman of Board of Steamboat Inspection 244

List of Steamers Inspected during calendar year 251

Statement of number of Steam Vessels added to the Dominion during calendar year, their class and horse-power, whether of wood or iron, their gross and registered tonnage, where built, and where and how employed 272

Statement of Number of Steam Vessels lost, broken up, or laid up, as unfit for service during calendar year, their class and horse-power, whether of wood or iron, their gross and registered tonnage, where built, and where and how employed 275

Steamboat Engineers, their examinations and renewals during calendar year 276

Statement of Duties and Fees collected, forming the Steamboat Inspection Fund 296

36. List of Lights in the Dominion 298

37. The Quebec Pilot Fund in Account Current with the Secretary-Treasurer of the Trinity House, Quebec 334

Statement of Monies received and paid by the Trinity House of Quebec on account of the Quebec Decayed Pilot Fund 336

38. Report of Investigation into the Cause of the Wreck of the S.S. "Atlantic." 340

39. Report of Investigation into the Cause of the Wreck of the Steamer "Louis Renaud." 344

40. Report of Investigation into the Cause of the Wreck of the Steamer "Northern".. 346

41. Report of Investigation into the Cause of the Wreck of the Steamer "City of Washington" 354

Digitized by Google

No. Page

42. Report of Investigation into the Cause of the Wreck of the Steamer "Precursor".. 356
43. Report of Investigation into the Cause of the Wreck of the Steamer "Royal Sovereign" 358
44. Report of Investigation into the Cause of the Wreck of the Steamer "Bavarian"... 360
45. List of Persons to whom Rewards have been Granted by the Government of the Dominion of Canada, from 30th of June, 1872, to 31st December, 1873, for Gallant Services Rendered in Saving Life from Shipwrecked Canadian Vessels..... 364
46. List of Persons, Subjects of the Dominion of Canada, to whom Rewards have been Granted by the British and Foreign Governments from 30th June, 1872, to 31st December, 1873, for Gallant and Humane Services Rendered in Saving Life from Shipwrecked British and Foreign Vessels..... 369
47. Report of the Secretary of the Harbour Commissioners of Montreal..... 370
Report of Engineer..... 372
Report of the Captain and Engineer of the "Chain Tug"..... 381
Report of the Harbour Master..... 386
Classification, Numbers and Tonnage of sea-going Vessels that have been in the Port within last ten years..... 389
Comparative Statement showing the dates of the opening and closing of navigation, first arrival from sea and last vessel for sea, number of vessels, tonnage, etc., for last ten years..... 389
Comparative Statement showing the number and tonnage of inland vessels, and the greatest number that have been in port at one time for the past ten years..... 390
Report on the Decayed Pilot Fund 390
H. H. Whitney, Treasurer, in account with the Decayed Pilot Fund.. 393
48. Report of the Harbour Master at the Ledge, Port of St. Stephen's, New Brunswick.. 395
49. Report of the Harbour Master for the Port of St. George, New Brunswick... 396
50. Account of the Sums Received by the Harbour Master at the Port of Welshpool, Campobello, New Brunswick..... 397
51. Report of the Harbour Master for the Port of Chatham, New Brunswick..... 398
52. Report of the Harbour Master, for the Port of Newcastle, New Brunswick 399
53. Report of the Harbour Master for the Port of Bathurst, New Brunswick 400
54. Report of the Harbour Master for the Port of Buctouche, New Brunswick..... 402
55. Statement of Harbour Dues Collected at the Port of Dalhousie, New Brunswick 403
56. Return of Fees Collected at the Shipping Office, Liverpool, Nova Scotia..... 403
57. Report of Shipping Master for the Port of Lunenburg, Nova Scotia..... 404
58. Report of the Commissioners of the Harbour of Pictou, Nova Scotia 405
Account of money received and expended..... 406
59. Report of the Wardens of the Marine and Immigrant Hospital, Quebec 407
60. Report on the Lightships in the St. Lawrence in November..... 409
Captain Levesque's Report. 411
Report of Thomas Connell, Captain of the Manicouagan Lightship 412
61. Report of the Port Warden of Quebec 415
62. Report of the Port Warden of Montreal..... 416
63. Report of the Shipping Master for the Port of Halifax, Nova Scotia..... 419
64. Statements and Evidence Submitted by the Hon. P. Mitchell, before the Parliamentary Committee on Banking and Commerce on the subject of Deck Loads 421
65. Report of the Harbour Commissioners of Quebec..... 449
Statement of Receipts and Expenditure, 1872-3..... 450
66. Statement shewing the Names of the Members on the Establishment Staff of the Department, the Rank held by each, and the Salaries they severally received during fiscal year..... 451

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PART II.

FISHERIES BRANCH.

	Page
A.—List of Fishery Officers for the Dominion of Canada	1
B.—Report of the Cruise of the Government Schooner *La Canadienne* for the season of 1873, with Statistics of Fisheries in the Gulf and Lower St. Lawrence Division	12
C.—Statistics of Fisheries, South Shore, River St. Lawrence, from Quebec to Cape Chatte	76
D.—Statistics of Fisheries, North Shore, River St. Lawrence, from Quebec to Bersimis	79
E.—General Recapitulation of the yield of Fisheries in the Province of Quebec	81
F.—Return of the Fishing Vessels at the Magdalen Islands in 1873	82
G.—Synopsis of Fishery Overseers' Reports in the Province of Quebec	89
H.—Report on the Fish Breeding Establishment at Newcastle, Ontario, for the season of 1873	106
J.—Report on the Fish Breeding Establishment at Restigouche, for the season of 1873	122
K.—Report on the Fish Breeding Establishment at Gaspé Basin, for the season of 1873	124
L.—Report on the Fish Breeding Establishment at Miramichi, N. B., for the season of 1873	125
M.—Report on Fish Breeding Operations at Moisie River, for the season of 1873	132
N.—Report of the Inspector of Fisheries in Nova Scotia and New Brunswick	134
O.—Special Report on the Lobster	149
P.—Statistics of Fisheries in the Province of [illegible]tia	155
Q.—Statistics of Fisheries in the Provin[illegible]ew Brunswick	158
R.—Statistics of Fisheries in the Province of Ontario	162
S.—Recapitulation of the yield and value of Fisheries in the Province of Ontario	170
T.—Synopsis of Fishery Overseers' Reports in the Province of Ontario	171
U.—Report on a Deep Sea Dredging expedition to the Gulf of St. Lawrence, by Mr. Whiteaves, F.G.S., during the season of 1873	178
V.—Remarks on the Fisheries of British Columbia, by the Agent of the Department of Marine and Fisheries at Victoria	205
X.—Statement of Expenditure on account of Fisheries Service, for fiscal year ended 30th June, 1873	207
Y.—Statement of Expenditure on account of Marine Police, for the fiscal year ending 30th June, 1873	220

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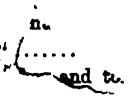

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(No. 4.)

SCHEDULE OF PAPERS

FROM THE

EPARTMENT OF MARINE AND FISHERIES,

FOR THE YEAR ENDING 30TH JUNE, 1873.

1. STATEMENT of Expenditure of Trinity House, Quebec.
2. do do do Montreal.
3. do do and Receipts in connection with Harbor Police at Quebec and Montreal.
4. STATEMENT of Expenditure and Collections in connection with Harbor Improvements.
5. STATEMENT of Expenditure in connection with the construction of Light-houses, Lightships, Steam Fog Whistles, &c., &c.
6. STATEMENT of Expenditure in connection with the maintenance of Light-houses, Lightships, Steam Fog Whistles, &c., &c.
7. STATEMENT of Expenditure and Receipts in connection with Sick and Disabled, and Shipwrecked and Distressed Mariners.
8. STATEMENT of Receipts and Expenditure in connection with the "Decayed Pilot Fund," Quebec.
9. STATEMENT of Receipts and Expenditure in connection with the "Decayed Pilot Fund," Montreal.

accordance with the recommendation of the Joint Committee on Printing, the above Papers are not printed.]

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